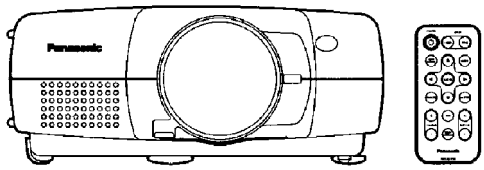
ORDER NO. VED0008301C0

D10

Service Manual

LCD Projector

PT-L711E / PT-L711U / PT-L701E / PT-L701U / PT-L501E / PT-L501U / PT-L1711 / PT-L1701 / PT-L1501



SPECIFICATIONS

MC-Service

The service technician is required to read and follow the "Safety Precautions" and "Important Safety Notice" in this service Manual.

Specifications

Power supply:
120 V - 240 V AC, 50 Hz / 60 Hz
Power consumption:
240 W (During standby (when fan is stopped): Approx. 5 W - 10 W)
Amps:
2.8 A - 1.0 A
LCD panel:
Panel size (diagonal): 0.9 type (22.86 mm)
Aspect ratio: 4:3
Micro lens array:
PT-L711E/U, L1711: Available
Other models: Not available
Display method:
3 transparent LCD panels (RGB)
Drive method:
Active matrix method
Pixels:
PT-L501E/L501U/L1501: 480 000 (800 × 600) × 3 panels
Other models: 786 432 (1 024 × 768) × 3 panels

Lens:
Manual zoom (1 - 1.3) / focus lens,
F 1.8 - 2.1, f 28.7 mm - 36.0 mm

Lamp:
UML lamp (160 W)
Luminosity:
PT-L711E/L711U: 1 400 lm/ANSI
PT-L701E/L701U/L1701: 1 000 lm/ANSI
PT-L501E/L501U/L1501: 1 100 lm/ANSI

Scanning frequency:
Horizontal scanning frequency:
PT-L501E/L501U/L1501: 24 kHz - 81 kHz
Other models: 24 kHz - 97 kHz
Vertical scanning frequency: 50 Hz - 120 Hz

Dot clock frequency:
PT-L501E/L501U/L1501: 110 MHz or less
Other models: 135 MHz or less
$Y P_B P_R$ signals:
NTSC (480i), 480p, PAL (625i), 720p,
HDTV (1 080i / 1 035i)
Color system:
6 (NTSC / NTSC 4.43 / PAL / PAL-M / PAL-N / SECAM)
Projection size:
762 mm - 7 620 mm
Throw distance:
1.1 m - 11.7 m
Optical axis shift:
1/10 (fixed)
Screen aspect ratio:
4:3
Installation:
Front / Rear / Ceiling / Desk (Menu selection method)
Speakers:
2.8 cm round × 2
Max. useable volume output:
2 W (1 W + 1 W) EIAJ (stereo)
Connectors:
RGB1 IN: Dual-line D-SUB HD 15-pin (female)
During $Y P_B P_R$ input: Y: 1.0 V [p-p], 75 Ω,
$P_B P_R$: 0.7 V [p-p], 75 Ω
During RGB input: R/G/B: 0.7 V [p-p], 75 Ω, G.SYNC: 1.0 V [p-p], 75 Ω, HD/SYNC: TTL high impedance, automatic plus/minus polarity compatible
AUDIO IN (for RGB):
Double-line 0.5 V [rms] M3 jack (Stereo Mini)
VIDEO IN:
Single-line, RCA pin jack, 1.0 V [p-p], 75 Ω
S-VIDEO IN:
Single-line, Mini DIN 4 pin,
Y: 1.0 V [p-p],
C: 0.286 V [p-p], 75 Ω
AUDIO IN (for S-VIDEO / VIDEO):
0.5 V [rms] RCA pin jack × 2 (L/R)
AUDIO OUT:
Single-line 0.5 V [rms] M3 jack
(Stereo Mini)
(Monitor output / stereo compatible),
0 V [rms] - 2.0 V [rms] (variable)
Cabinet:
Molded plastic
Dimensions:
Width: 233 mm
Height: 98 mm
Length: 330 mm (with lens cover fit)
Weight:
3.8 kg
Operating environment:
Temperature: 0°C - 40°C
Humidity: 20 % - 80 % (no condensation)
Certifications:
PT-L711E/701E/501E: EN60950, EN55022, EN61000-3-2, EN61000-3-3, EN55024
PT-L711U/701U/501U: UL1950, C-UL, FCC
PT-L1711/L1701/L1501: GB4943, GB9254

<Remote control unit>
Power supply:
3 V DC (Lithium CR2025 battery × 1)
Operating range:
Approx. 7 m
(when operated directly in front of signal receptor)
Dimensions:
Width: 40 mm
Height: 6.5 mm
Length: 86 mm
Weight: 18 g (including battery)

Accessories:

Card remote control unit (TNQE239):	1
Lithium battery for remote control unit (CR2025):	1
Power cord:	1
RGB signal cable (TSXF163):	1 (2.0 m)
Video/Audio cable (TSXF015):	1 (1.5 m)
Lens cover (TKKL5139):	1
Carrying bag:	1

Options:

Ceiling bracket:	ET-PK701
Wireless remote control unit:	ET-RM100

- Specifications are subject to change without notice.
- Weight and dimensions shown are approximate.

Panasonic

Trademark Acknowledgements

- PS/2, VGA and XGA are trademarks of International Business Machines Corporation.
- Macintosh is a registered trade mark of Apple Computer, Inc.
- S-VGA is a registered trade mark of the Video Electronics Standards Association.
- Windows is a registered trade mark of Microsoft Corporation.

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For US

IMPORTANT SAFETY NOTICE

There are special parts used in Panasonic LCD Projectors which are important for safety. These parts are shaded on the schematic diagram. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of PANASONIC BROADCAST& TELEVISION SYSTEMS COMPANY.

Caution: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Warning: To assure continued FCC emission limit compliance, use only the provided grounded power supply cord and shielded interface cable with ferrite core when connecting this device to a computer. Also, any unauthorized changes or modifications to this equipment would void the users authority to operate this device.

Note: This LCD Projector may only be used in a commercial, business or industrial environment.

1. Safety Precautions

1.1. General Guidelines

- For continued safety, no modification of any circuit must be attempted.

- Unplug the power cord from the power outlet before disassembling this projector.

- It is advisable to use an isolation transformer in the AC power line before the service.

- Observe the original lead dress during the service. If a short circuit is found, replace all the parts overheated or damaged by the short circuit.

- After the service, all the protective devices such as insulation barriers, insulation papers, shields, and isolation R-C combinations must be properly installed.

- After the service, check the leakage current to prevent the customer from getting an electric shock.

1.2. Leakage Current Check

1. **Prepare the measuring circuit as shown in Fig.1.**
   Be sure to use a voltmeter having the performance described in Table 1.

Fig. 1

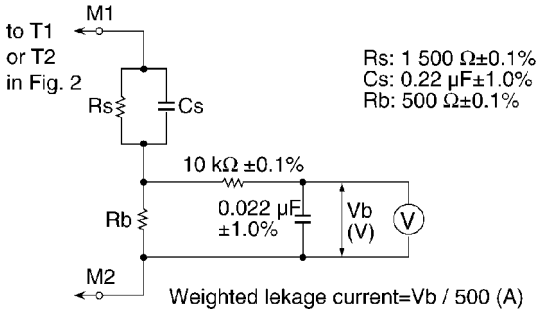
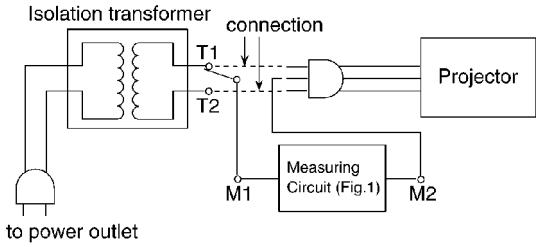


Table 1

	Performance
Voltmeter (rms reading)	Accuracy: ≤ 2% Input resistance: ≥ 1 MΩ Input capacitance: ≤ 200 pF Frequency range: 15 Hz to 1 MHz

Fig. 2

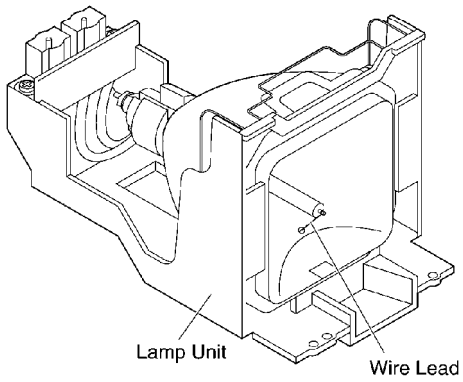


2. **Assemble the circuit as shown in Fig. 2. Plug the power cord in a power outlet.**
3. **Connect M1 to T1 according to Fig. 2 and measure the voltage.**
4. **Change the connection of M1 from T1 to T2 and measure the voltage again.**
5. **The voltmeter must read 0.375 V or lower in both of steps 3 and 4. This means that the current must be 0.75 mA or less.**
6. **If the reading is out of the above standard, the projector must be repaired and rechecked before returning to the customer because of a possibility of an electric shock.**

1.3. UV Precaution and UHM Lamp Precautions

- Be sure to unplug the power cord from the power outlet when replacing the lamp.
- Because the lamp reaches a very high temperature during its operation, wait until it cools completely when replacing the Lamp Unit.
- The lamp emits small amounts of UV-radiation, avoid direct-eye contact with the light.
- Because the high pressure lamp involves a risk of explosion, never touch the lamp wire lead during the service. (See Fig. 3)

Fig. 3



2. Operating Instructions

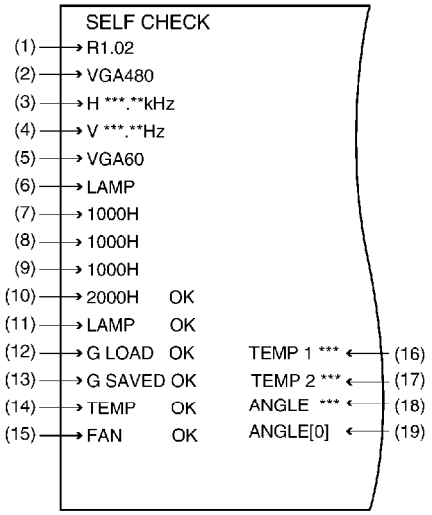
3. Self-Check Mode

This mode is used to narrow down the location of the failure.

3.1. Procedure to enter the self-check mode

While pressing the VOLUME "—" button on the remote control unit, press the left-arrow "◀" button on the main unit 3 seconds or longer.

3.2. Self-Check Display and Contents



	Display Contents	Remarks
(1)	Microcomputer Version Display	EEPROM Software Version
(2)	Resolution Name	
(3)	Horizontal Signal Frequency	RGB signal reception only
(4)	Vertical Signal Frequency	RGB signal reception only
(5)	Signal Name	RGB signal reception only
(6)	Lamp	
(7)	Lamp Cumulative Usage Time	Current Usage Time
(8)	Lamp Cumulative Usage Time	Second Usage Time
(9)	Lamp Cumulative Usage Time	First Usage Time
(10)	Lamp Cumulative Usage Time Check	Replacement Timing Check
(11)	Lamp Abnormality Check	Cause of Lamp Malfunction
(12)	Gamma Correction Data Check	
(13)	Gamma Correction Data Check	
(14)	Temperature Abnormality Check	Cause of Lamp Malfunction
(15)	Fan Stop Check	Cause of Lamp Malfunction
(16)	Temperature Sensor 1 Measurement Value	Around the panel
(17)	Temperature Sensor 2 Measurement Value	Around the intake slot
(18)	Tilt Sensor Measurement Value	
(19)	Tilt Sensor Reference Value	At horizontal level

Note:
・This display is an example and the display contents depend on the input signal mode.
・[OK] ------ Normal, [--] ------ Failure

3.3. Canceling the self-check mode

Press the MENU button on the main unit or the remote control unit.

4. Service Mode

This mode is used to display three kinds of test patterns (Crosshatch, Flicker Adjustment and White) in the four colors (White, Red, Green and Blue).

4.1. Procedure to enter the service mode

1. **Select "FRONT/REAR" on the OPTION menu.**
   MENU → OPTION → FRONT/REAR
2. **While pressing the VOLUME "+" button on the remote control unit, press the left-arrow " ◀ " button on the main unit 3 seconds or longer to enter the service mode.**
3. **In the service mode, pressing the up-arrow " ▲ " or down-arrow " ▼ " button on the remote control unit allows the test pattern selection [Horizontal Lines / Vertical Lines / Dots / White (No pattern)] and the left-arrow " ◀ " or right-arrow " ▶ " button the color selection (White / Red / Green / Blue).**

4.2. Canceling the service mode

Press the MENU button on the main unit or the remote control unit.

5. Disassembly Instructions

Warning:

- Be sure to unplug the power cord from the power outlet before

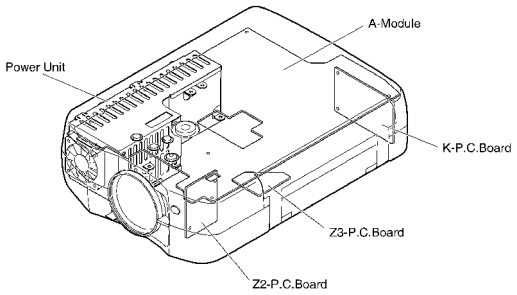
disassembling this projector.

Caution:

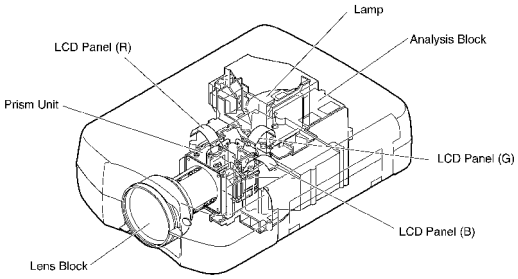
- While turning over a printed circuit board, be sure to put a insulating material under it to prevent a short circuit.
- Printed circuit boards and wires must not be pulled forcibly, but be handled carefully.
- Connectors also must be handled carefully.
- After repairing this projector, be sure to put back the wires and connectors to the original condition.

5.1. Printed Circuit Board and Main Parts Location

Electrical Parts

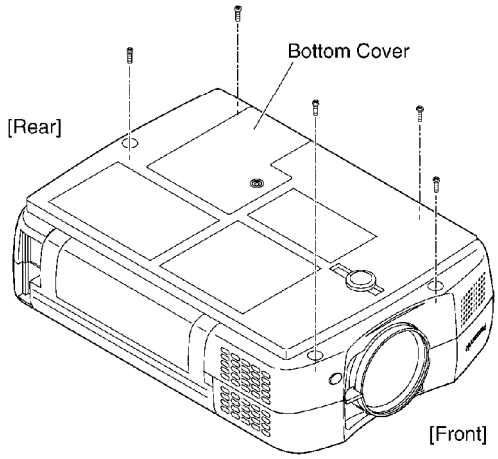


Optical Parts

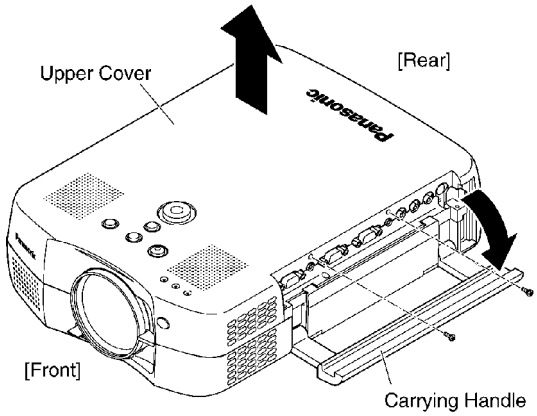


5.2. Removal of Upper Cover

1. Turn over (upside down) the main unit and unscrew the 5 screws fixing the upper cover.



2. Return the main unit to the normal position and extend the carrying handle.



3. Unscrew the 2 screws.

4. Lift the upper cover and disconnect the 2 connectors from the speakers.

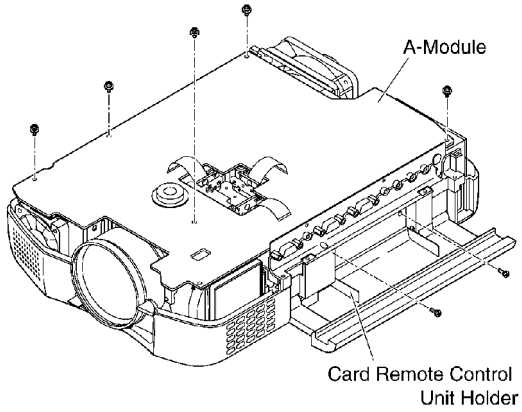
5.3. Removal of A-Module

Notes:

- If replacing A-Module, read the microcomputer and gamma data from the old module and write it in the new one according to the section 6.5. "Software for Adjustment". (If not, remove IC1041 and IC1036 from the old module and replace them on the new module.)
- If replacing A-Module, adjust the Input Level according to the chapter 6 "Measurement and Adjustments".

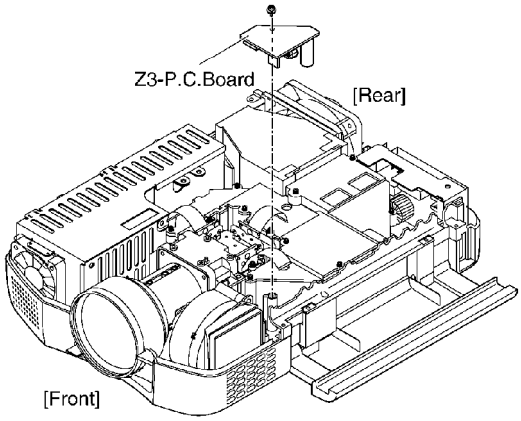
1. Remove the upper cover according to the section 5.2. "Removal of Upper Cover".

2. Open the card remote control unit holder.
3. Unscrew the 2 screws fixing the connector panel.
4. Disconnect the connectors from/to the A-Module.
5. Unscrew the 5 screws and remove the A-Module.



5.4. Removal of Z3-P.C.Board

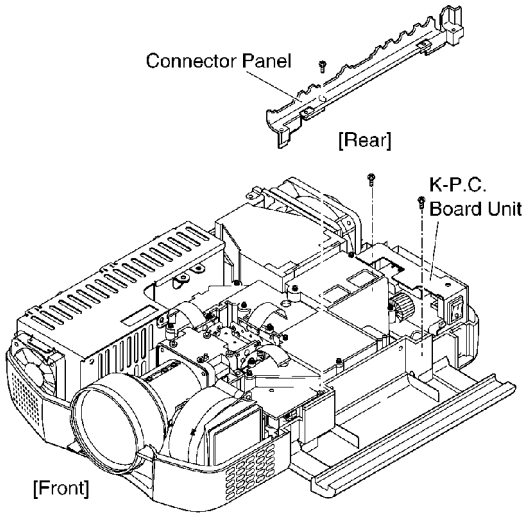
1. Remove the upper cover according to the section 5.2. "Removal of Upper Cover".
2. Remove the A-Module according to the section 5.3. "Removal of A-Module".
3. Unscrew the 1 screw fixing the Z3-P.C.Board.
4. Disconnect the connector and remove the Z3-P.C.Board.



5.5. Removal of K-P.C.Board

1. Remove the upper cover according to the section 5.2. "Removal of Upper Cover".

2. Remove the A-Module according to the section 5.3. "Removal of A-Module".
3. Unscrew the 1 screw and remove the connector panel.
4. Unscrew the 2 screws fixing the K-P.C.Board unit.
5. Disconnect the connector and remove the K-P.C.Board unit.

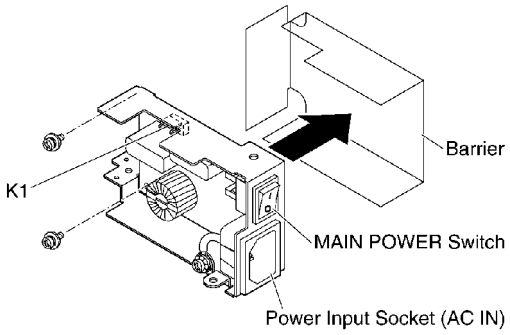


6. Remove the barrier for insulation.

Note:

- Above procedure (steps 1-6) becomes possible to replace components of the K-P.C.Board.

7. Unscrew the 2 screws fixing the K-P.C.Board.
8. Unsolder terminals of the power input socket (AC IN).
9. Unsolder terminals of the MAIN POWER switch and remove the K-P.C.Board.

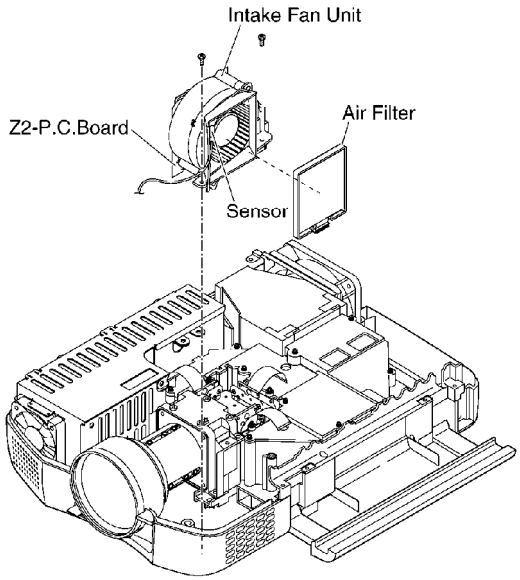


5.6. Removal of Z2-P.C.Board

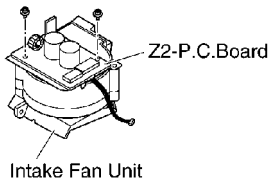
1. Remove the upper cover according to the section 5.2. "Removal of Upper Cover".
2. Remove the A-Module according to the section 5.3. "Removal of A-Module".
3. Remove the Z3-P.C.Board according to the section 5.4. "Removal of Z3-P.C.Board".
4. Unscrew the 2 screws fixing the intake fan unit.
5. Disconnect the connectors and remove the intake fan unit with the air filter.

Note:

- When reassembling, must set the sensor to the original position.



6. Unscrew the 2 screws and remove the Z2-P.C.Board.

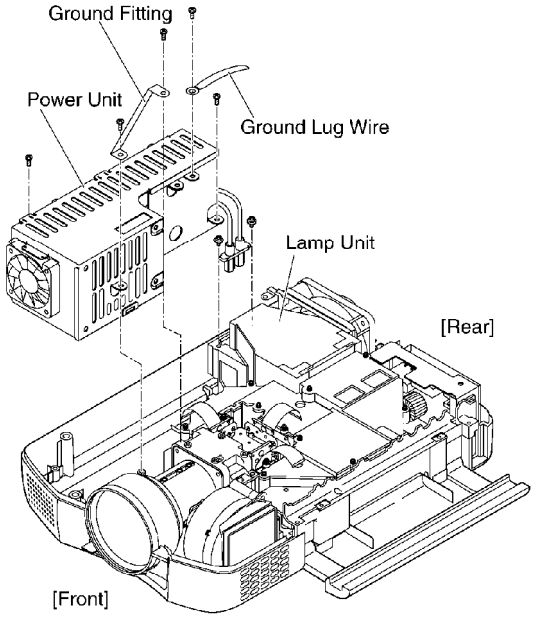


5.7. Removal of Power Unit

1. Remove the upper cover according to the section 5.2. "Removal of Upper Cover".
2. Remove the A-Module according to the section 5.3. "Removal of A-

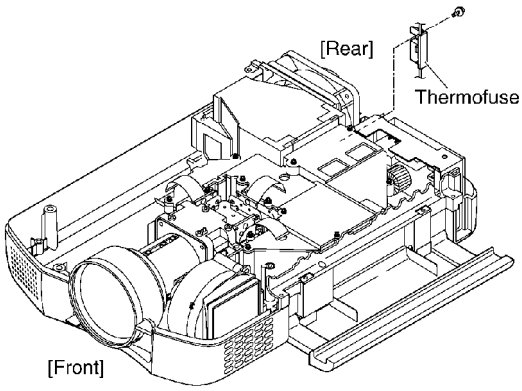
Module".

3. **Disconnect the connector to the Z2-P.C.Board.**
4. **Unscrew the 2 screws fixing the connector to the lamp unit.**
5. **Unscrew the 1 screw fixing the ground lug.**
6. **Unscrew the 1 screw (optical block side) fixing the ground fitting.**
7. **Unscrew the 3 screws fixing the power unit.**
8. **Take the power unit out and disconnect the connectors.**

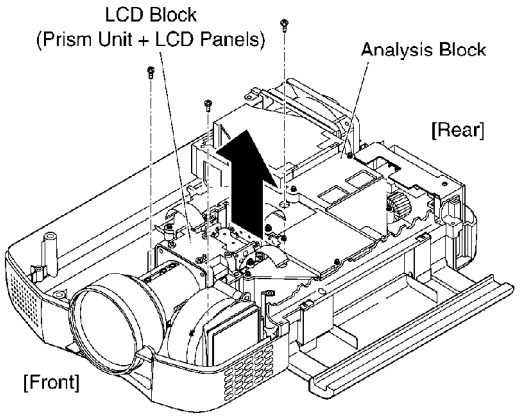


5.8. Removal of Analysis/LCD Blocks

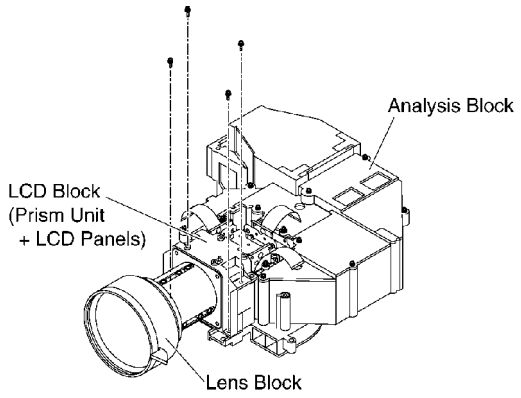
1. **Remove the upper cover according to the section 5.2. "Removal of Upper Cover".**
2. **Remove the A-Module according to the section 5.3. "Removal of A-Module".**
3. **Remove the Z3-P.C.Board according to the section 5.4. "Removal of Z3-P.C.Board".**
4. **Remove the power unit according to the section 5.7. "Removal of Power Unit".**
5. **Unscrew the 1 screw and remove the thermofuse.**



6. Unscrew the 3 screws and remove the analysis/LCD blocks.



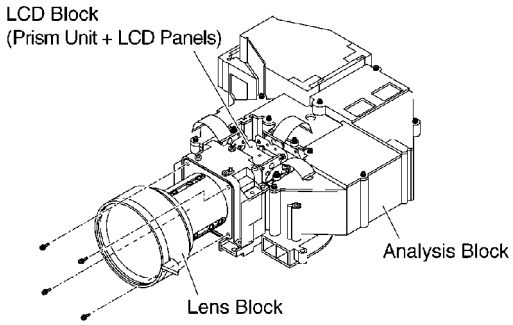
7. Unscrew the 4 screws and separate the analysis/LCD blocks.



5.9. Removal of Lens Block

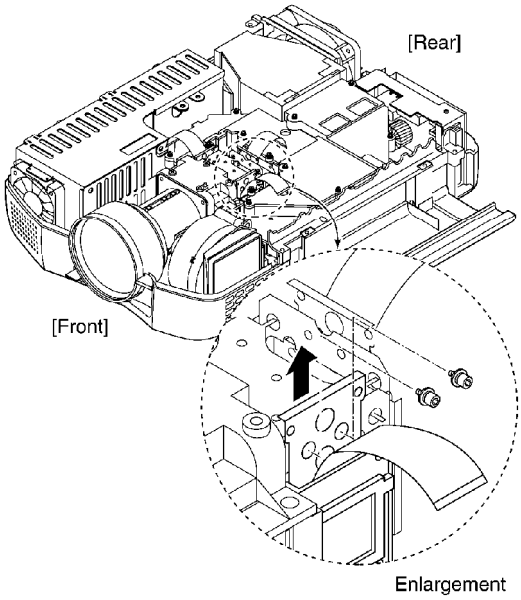
1. Remove the analysis/LCD blocks according to steps 1-7 in the section 5.8. "Removal of Analysis/LCD Blocks".

2. Unscrew the 4 screws and remove the lens block.



5.10. Removal of LCD Panel

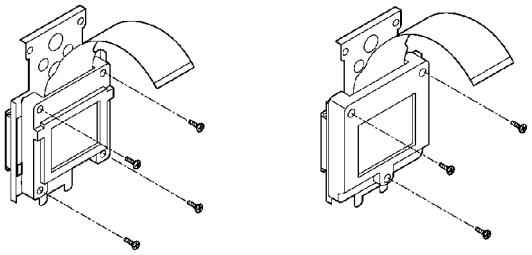
1. **Remove the upper cover according to the section 5.2. "Removal of Upper Cover".**
2. **Remove the A-Module according to the section 5.3. "Removal of A-Module".**
3. **Use a hexagon head wrench, unscrew the 2 screws fixing the bracket.**
4. **Lift the bracket with LCD panel carefully and take it out.**



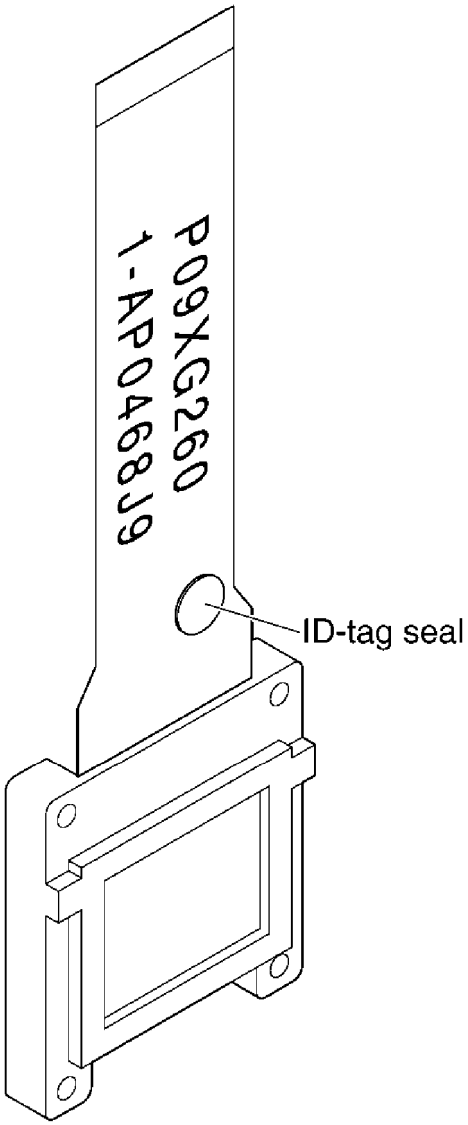
5. **Unscrew the screws and remove the LCD panel.**

   Note:

   PT-L7*/L17** = 4 screws, PT-L5***/L15** = 3 screws**



5.11. LCD Panel Discrimination



ID-tag seal color	LCD panel
Red	LCD panel (R)
Blue	LCD panel (B)
(No seal)	LCD panel (G)

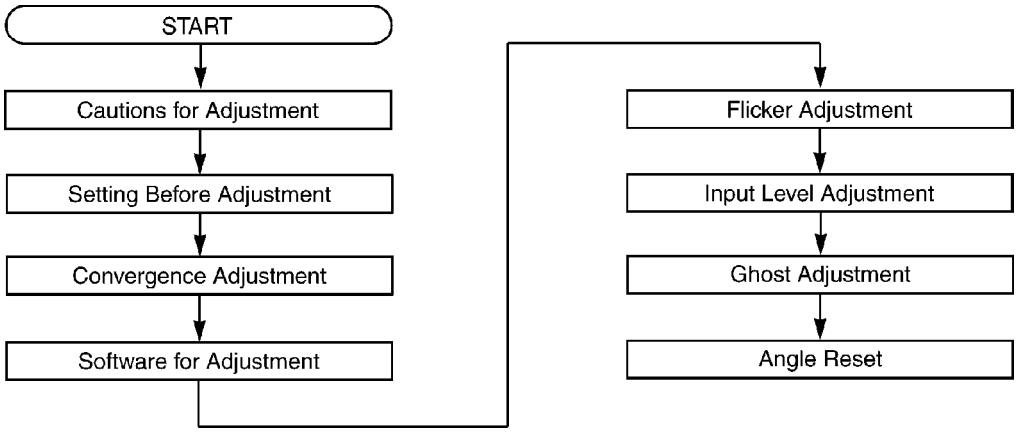
5.12. LCD Panel Combination

- There are two combinations for each series.
- Part number is printed on the FPC of LCD panel.
- When replacing LCD panel, use a component which has the same part number as the original.

Model number	LCD panel	Combination 1	Combination 2
PT-L711E/U PT-L1711	R	L5BDAXQ00029 (P09XG250)	L5BDAXQ00032 (P09XG260)
	G	L5BDAXQ00033 (P09XG260)	L5BDAXQ00030 (P09XG250)
	B	L5BDAXQ00031 (P09XG250)	L5BDAXQ00034 (P09XG260)
PT-L701E/U PT-L1701	R	L5BDAXQ00023 (P09XG210)	L5BDAXQ00026 (P09XG220)
	G	L5BDAXQ00027 (P09XG220)	L5BDAXQ00024 (P09XG210)
	B	L5BDAXQ00025 (P09XG210)	L5BDAXQ00028 (P09XG220)
PT-L501E/U PT-L1501	R	L5BDAXN00004 (P09SG110)	L5BDAXN00007 (P09SG120)
	G	L5BDAXN00008 (P09SG120)	L5BDAXN00005 (P09SG110)
	B	L5BDAXN00006 (P09SG110)	L5BDAXN00009 (P09SG120)

6. Measurement and Adjustments

6.1. Adjustment Procedure Flowchart

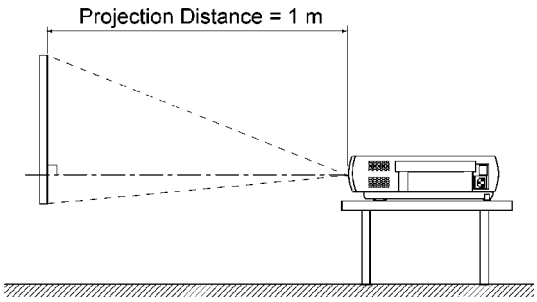


6.2. Cautions for Adjustment

- Never turn off the MAIN POWER switch until every fan completely stops.
- To maintain and ensure safety, always use the designated components for replacement parts.
- If removing any clamps, lead wires or connectors, always place them back in their proper locations.
- Be careful not to damage the lead wires or components when using a soldering iron or similar tool.

6.3. Setting Before Adjustment

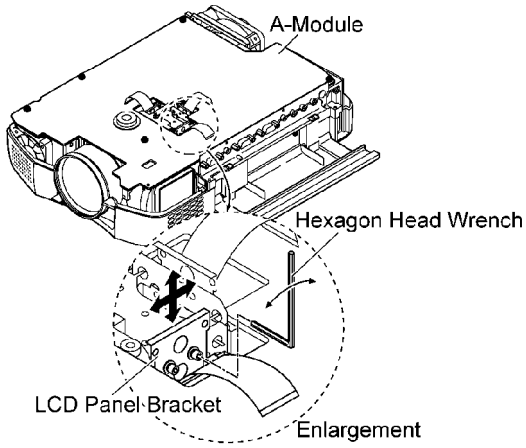
- Set up the projector to obtain the projection distance below.
- Turn the zoom knob of the lens block to obtain the largest size of the picture.



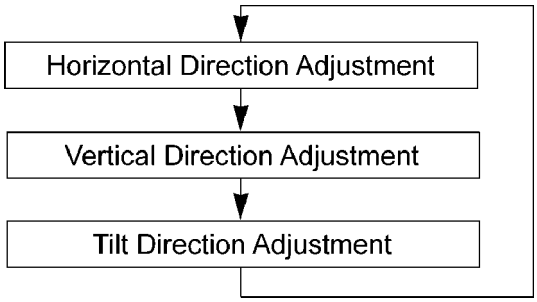
6.4. Convergence Adjustment

6.4.1. Basic Adjustment Procedure

1. Use a hexagon head wrench, loosen the 2 screws just until the bracket can be moved by your fingers.



2. Repeat the following steps until the red, green and blue crosshatch patterns merge into a white pattern.



Note:

- Because the projected picture may move opposite in direction to the move of the LCD panel, adjust the convergence observing the real projected picture carefully.

3. Use a hexagon head wrench, tighten the 2 screws to secure the bracket (LCD panel).

Note:

- Be careful not to move the bracket when tighten the screws.

6.4.2. Adjustment after Every LCD Panel or LCD Block Replacement

1. Connect a PC to the RGB connector and display the green crosshatch pattern (service pattern data is required), then adjust the lens focus.

2. Adjust the LCD panel (G) position to place the center position of the crosshatch pattern to the center on the screen.

3. Correct the tilt of the green crosshatch pattern.

4. Display the white crosshatch pattern.

5. Adjust the LCD panels (R) and (B) to merge the red and blue

patterns with the green one.

6.4.3. Adjustment after LCD Panel (G) Replacement

1. Connect a PC to the RGB connector and display the white crosshatch pattern (service pattern data is required), then adjust the lens focus.
2. Adjust the LCD panel (G) to merge the green pattern with the red and blue ones.

6.4.4. Adjustment after LCD Panel (R) Replacement

1. Connect a PC to the RGB connector and display the white crosshatch pattern (service pattern data is required), then adjust the lens focus.
2. Adjust the LCD panel (R) to merge the red pattern with the green and blue ones.

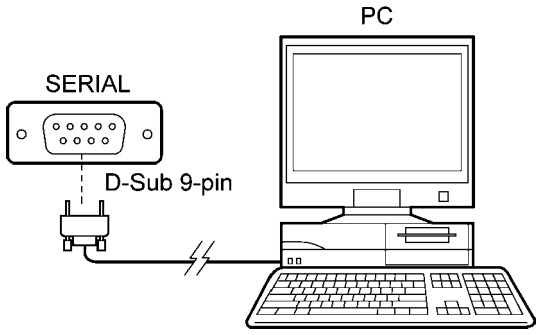
6.4.5. Adjustment after LCD Panel (B) Replacement

1. Connect a PC to the RGB connector and display the white crosshatch pattern (service pattern data is required), then adjust the lens focus.
2. Adjust the LCD panel (B) to merge the blue pattern with the green and red ones.

6.5. Software for Adjustment

6.5.1. Outline

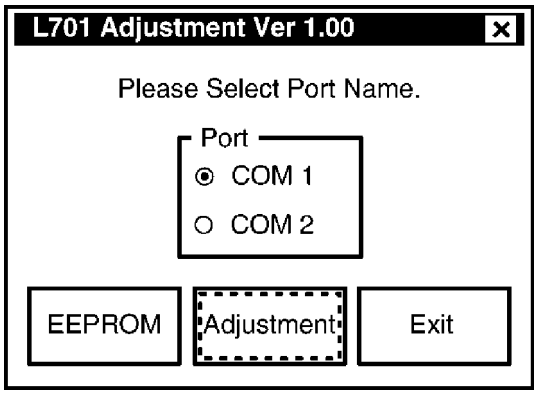
1. This projector needs computer-aided adjustments.
2. After the software adjustments, this projector must be turned off and on again to memorize the settings.
3. Connect the cable between the projector and a PC as shown below.
4. Updating the software will change the version number.



6.5.2. Operating Procedure

1. **Insert the floppy disk and run the software program by the keyboard entry.**
2. **The first menu is the port selection menu.**
3. **Adjust the projector by selecting the necessary item from the menu in each stage.**

6.5.3. Port Selection Menu



Select "COM1" or "COM2" and click "EEPROM" or "Adjustment".

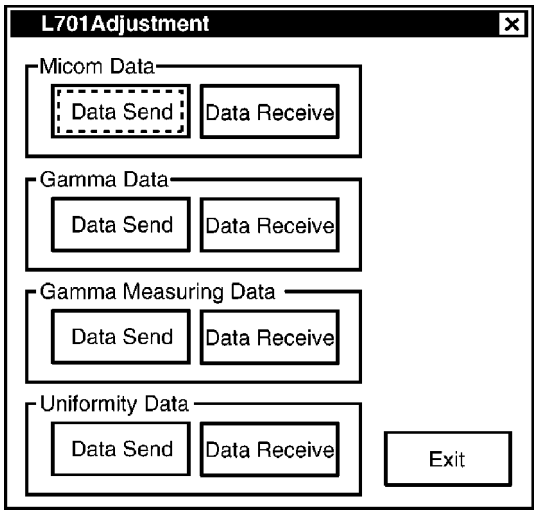
6.5.3.1. Explanation of Buttons

EEPROM:
Displays the EEPROM control menu.

Adjustment:
Displays the adjustment menu.

Exit:
Exits this application.

6.5.4. EEPROM Control Menu



6.5.4.1. Explanation of Buttons

Micom Data Send:
Reads the microcomputer data from the file and sends it to the projector.

Micom Data Receive:
Receives the microcomputer data from the projector and writes it in the file.

Gamma Data Send:
Reads the gamma data from the file and sends it to the projector.

Gamma Data Receive:
Receives the gamma data from the projector and writes it in the file.

Gamma Measuring Data Send:
Reads the LCD panel characteristic data (original gamma data) from the file and sends it to the projector.

Gamma Measuring Data Receive:
Receives the LCD panel characteristic data (original gamma data) from the projector and writes it in the file.

Uniformity Data Send:
Reads the color unevenness correction data from the file and sends it to the projector.

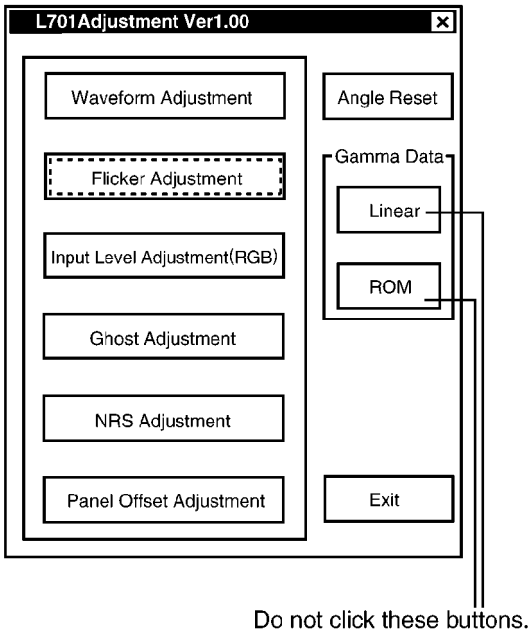
Uniformity Data Receive:
Receives the color unevenness correction data from the projector and writes it in the file.

Exit:
Exits this application.

6.5.4.2. Receive and sending of the data

Click a target button and specify a file name.

6.5.5. Adjustment Menu



6.5.5.1. Explanation of Buttons

Waveform Adjustment:
This button is not available.

Flicker Adjustment:
Displays the flicker adjustment menu.

Input Level Adjustment (RGB):
Displays the input level adjustment menu.

Ghost Adjustment:
Displays the ghost adjustment menu.

NRS Adjustment:
This button is not available.

Panel Offset:
This button is not available.

Angle Reset:
Displays the angle reset menu.

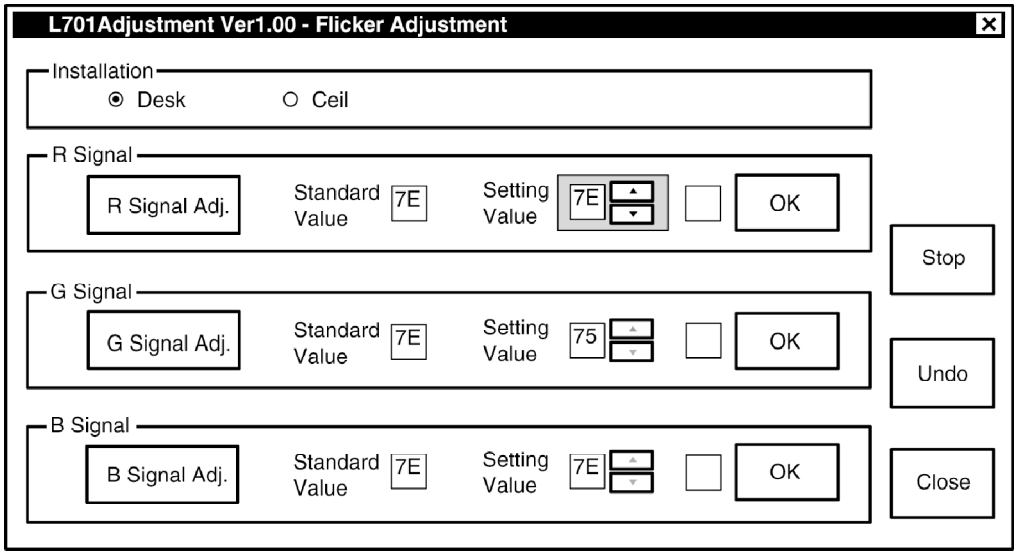
Gamma Data Linear:
This button is only used for factory. (Do not click this button.)

Gamma Data ROM:
This button is only used for factory. (Do not click this button.)

Exit:
Exits this application.

6.6. Flicker Adjustment

6.6.1. Adjustment Menu



6.6.2. Explanation of Buttons

Desk:
Sets the installation mode to the desk setting and receive the current data.

Ceil:

Sets the installation mode to the ceiling setting and receive the current data.

R Signal Adj.:

Sets the test signal mode to the R-signal and allows the "▲", "▼" and "OK" buttons of the R-signal to becomes active.

G Signal Adj.:

Sets the test signal mode to the G-signal and allows the "▲", "▼" and "OK" buttons of the G-signal to becomes active.

B Signal Adj.:

Sets the test signal mode to the B-signal and allows the "▲", "▼" and "OK" buttons of the B-signal to becomes active.

▲ or ▼

Changes the setting value and transmits its data. (The 8 and 2 keys on the keyboard have the same functions.) If releasing the mouse or key after pressing it continuously, the data is transmitted once. The variable setting value is enclosed in a box and using the TAB or SPACE key allows the move of the box.

OK:

Determines the setting value and stores its data in the EEPROM. (The ENTER key on the keyboard has the same function.) The item having two or more kinds of setting values is processed two or more items. Clicking this button or pressing ENTER key changes the color of the text "OK" to cyan (light blue). If changing the setting value using the "▲" or "▼" button or the 8 or 2 key, its color returns to black.

Stop:

Discontinues the communication. (This button is usually set for its inactive mode.)

Undo:

Returns the setting value to its original state and transmits its data. The color of the text "OK" returns to black.

Close:

Closes this menu.

6.6.3. Equipment to be used

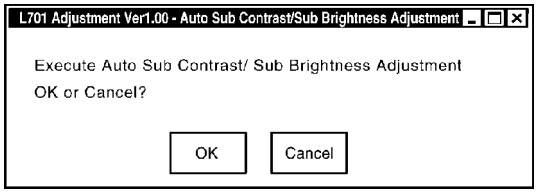
PC, Software for Adjustment

6.6.4. Adjustment Procedure

1. **Display the flicker adjustment menu.**
2. **Set the installation mode to the desk setting.**
3. **Click "R Signal Adj," and the red flicker adjustment pattern will be displayed.**
4. **Minimize the flicker while observing the projected pattern.**
5. **Click "G Signal Adj," and the green flicker adjustment pattern will be displayed.**
6. **Minimize the flicker while observing the projected pattern.**
7. **Click "B Signal Adj," and the blue flicker adjustment pattern will be displayed.**
8. **Minimize the flicker while observing the projected pattern.**
9. **Change the installation mode to the ceiling setting and follow steps 3 to 8 inclusive.**

6.7. Input Level Adjustment

6.7.1. Adjustment Menu



6.7.2. Explanation of Buttons

OK:
Executes automatic sub contrast and sub brightness adjustments, then closes this dialog.

Cancel:
Cancels this menu.

6.7.3. Equipment to be used

PC, Software for Adjustment, Signal Generator

6.7.4. Adjustment Procedure

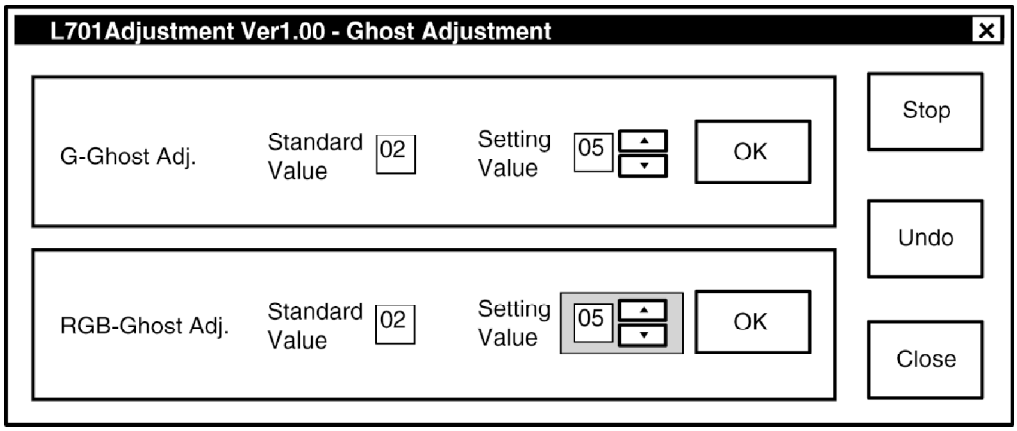
1. Display the input level adjustment menu.
2. Input a window pattern signal.

   Note:

   Use approx. 15 % window pattern as follows.
   Black background (screen width) : White window width = 2 : 1
   Black background (screen height) : White window height = 3 : 1
3. Click the OK button.

6.8. Ghost Adjustment

6.8.1. Adjustment Menu



6.8.2. Explanation of Buttons

▲or ▼

Changes the setting value and transmits its data. (The 8 and 2 keys on the keyboard have the same functions.) If releasing the mouse or key after pressing it continuously, the data is transmitted once. The variable setting value is enclosed in a box and using the TAB or SPACE key allows the move of the box.

OK:

Determines the setting value and stores its data in the EEPROM. (The ENTER key on the keyboard has the same function.) The item having two or more kinds of setting values is processed two or more items. Clicking this button or pressing ENTER key changes the color of the text "OK" to cyan (light blue). If changing the setting value using the "▲" or "▼" button or the 8 or 2 key, its color returns to black.

Stop:

Discontinues the communication. (This button is usually set for its inactive mode.)

Undo:

Returns the setting value to its original state and transmits its data. The color of the text "OK" returns to black.

Close:
Closes this menu.

6.8.3. Equipment to be used
PC, Software for Adjustment, Signal Generator

6.8.4. Adjustment Procedure

1. Display the ghost adjustment menu.

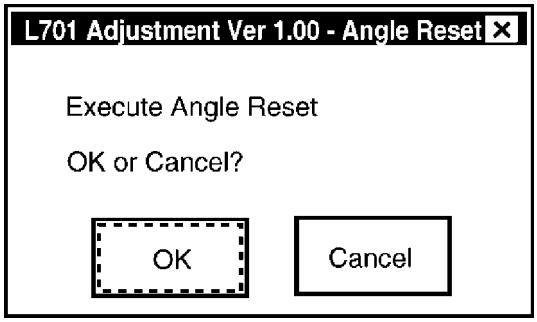
2. Input a checker pattern signal.

3. Minimize the ghost while observing the projected pattern.

4. Set the value to the point being its optimum value minus 1.

6.9. Angle Reset

6.9.1. Adjustment Menu



6.9.2. Explanation of Buttons

OK:
Executes angle reset, then closes this dialog.

Cancel:
Cancels this menu.

6.9.3. Equipment to be used
PC, Software for Adjustment

6.9.4. Adjustment Procedure

1. Display the angle reset menu.

2. Set the projector on a horizontal place.

Note:

This is used for the reference level of the tilt sensor.

3. Click the OK button.

7. Troubleshooting

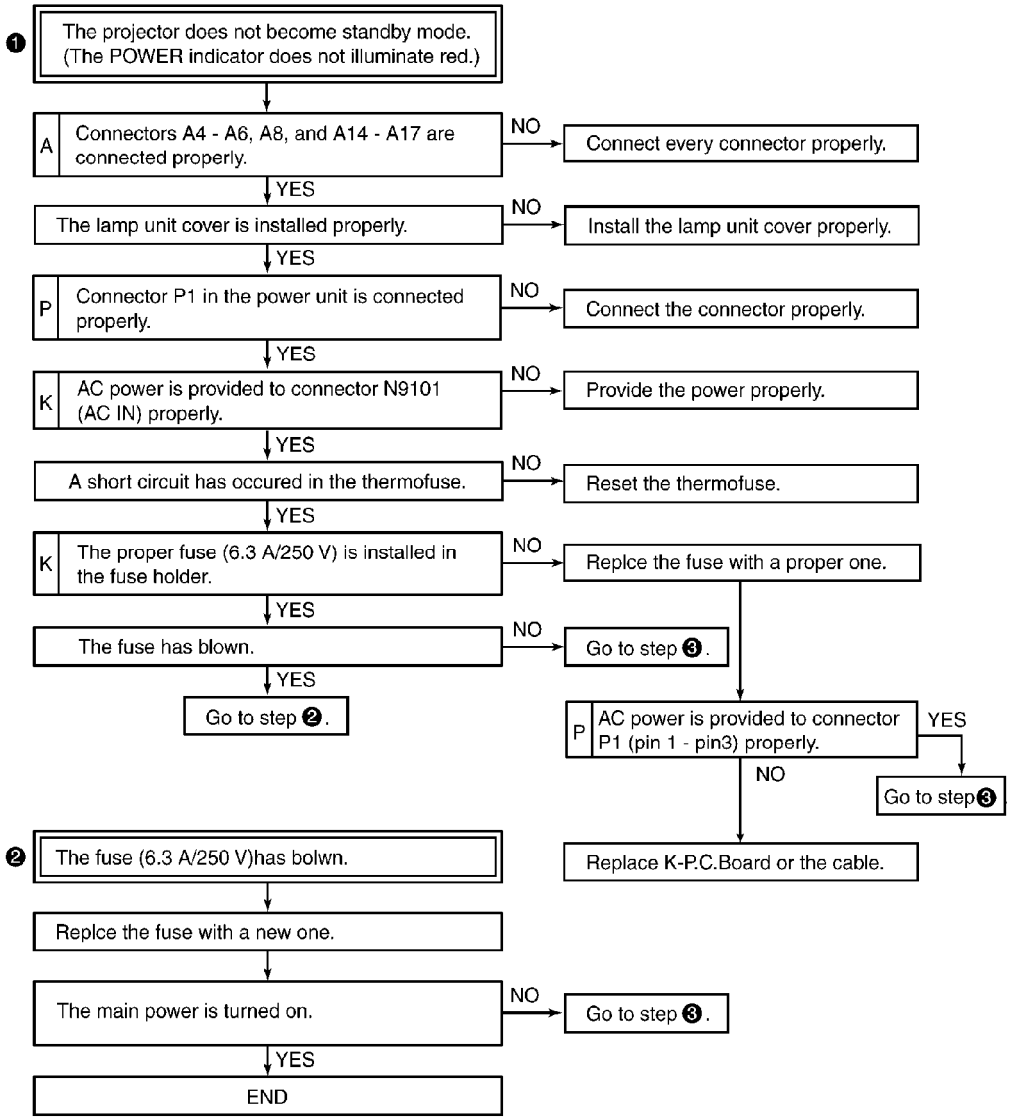
• The letters in the left of the inspection items indicate the module, unit or P.C. Board related to their respective descriptions.

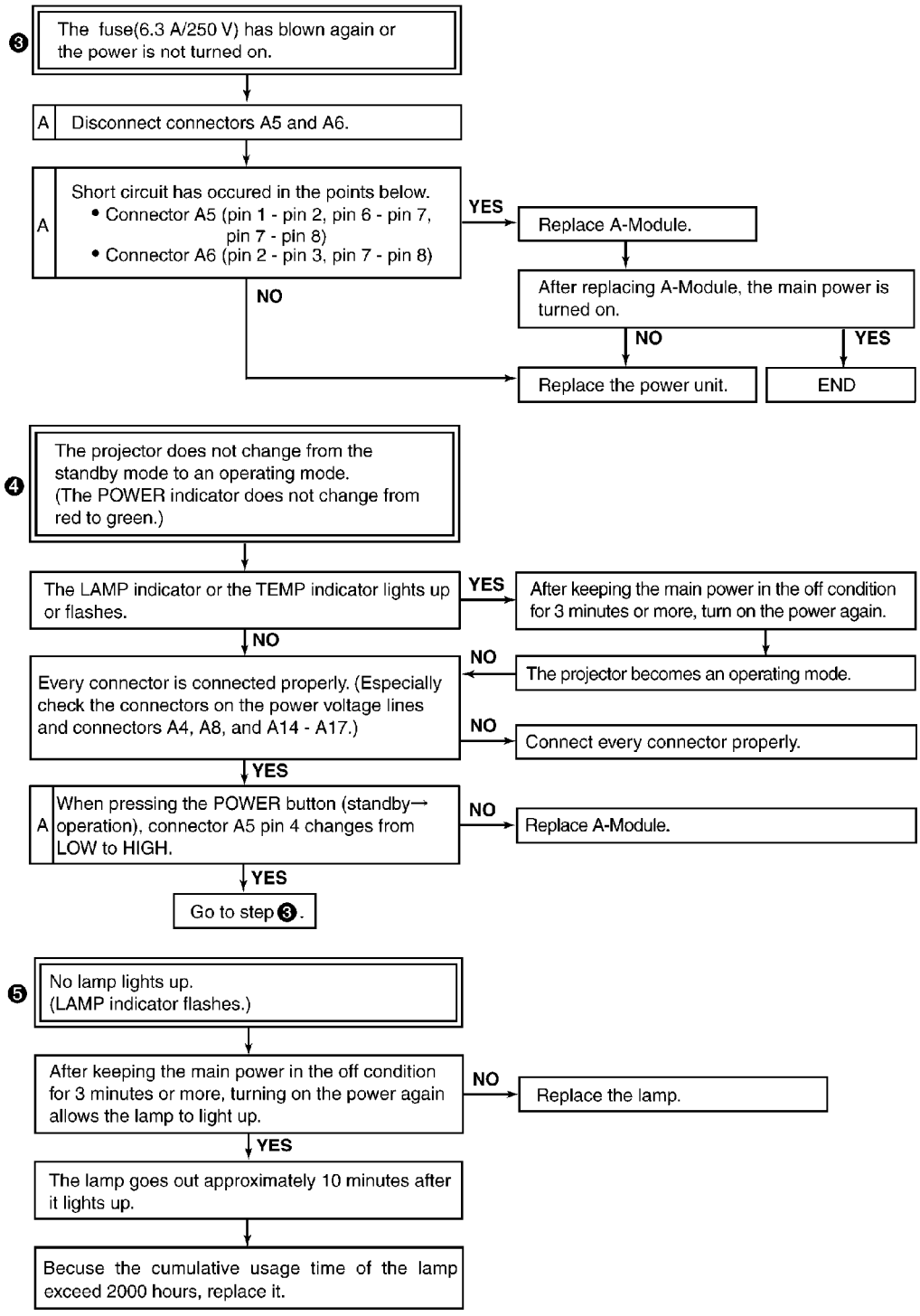
Note: (A)

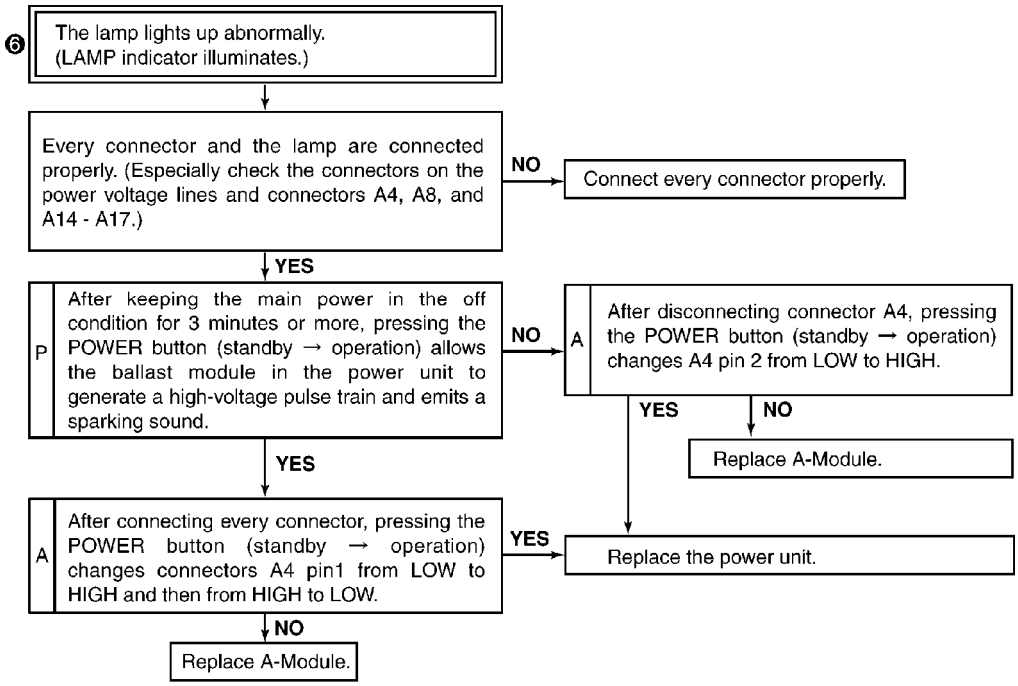
The letter of the alphabet indicates the module, unit or P.C. Board name.

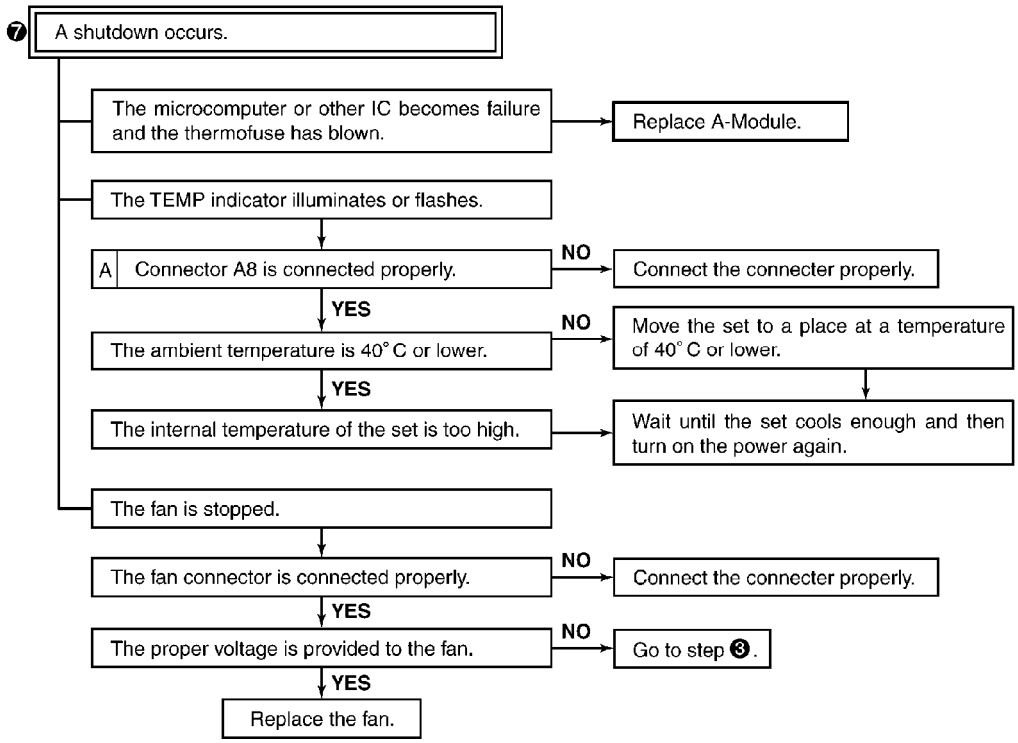
(Example) A: A-Module, P :Power Unit, K: K-P.C.Board

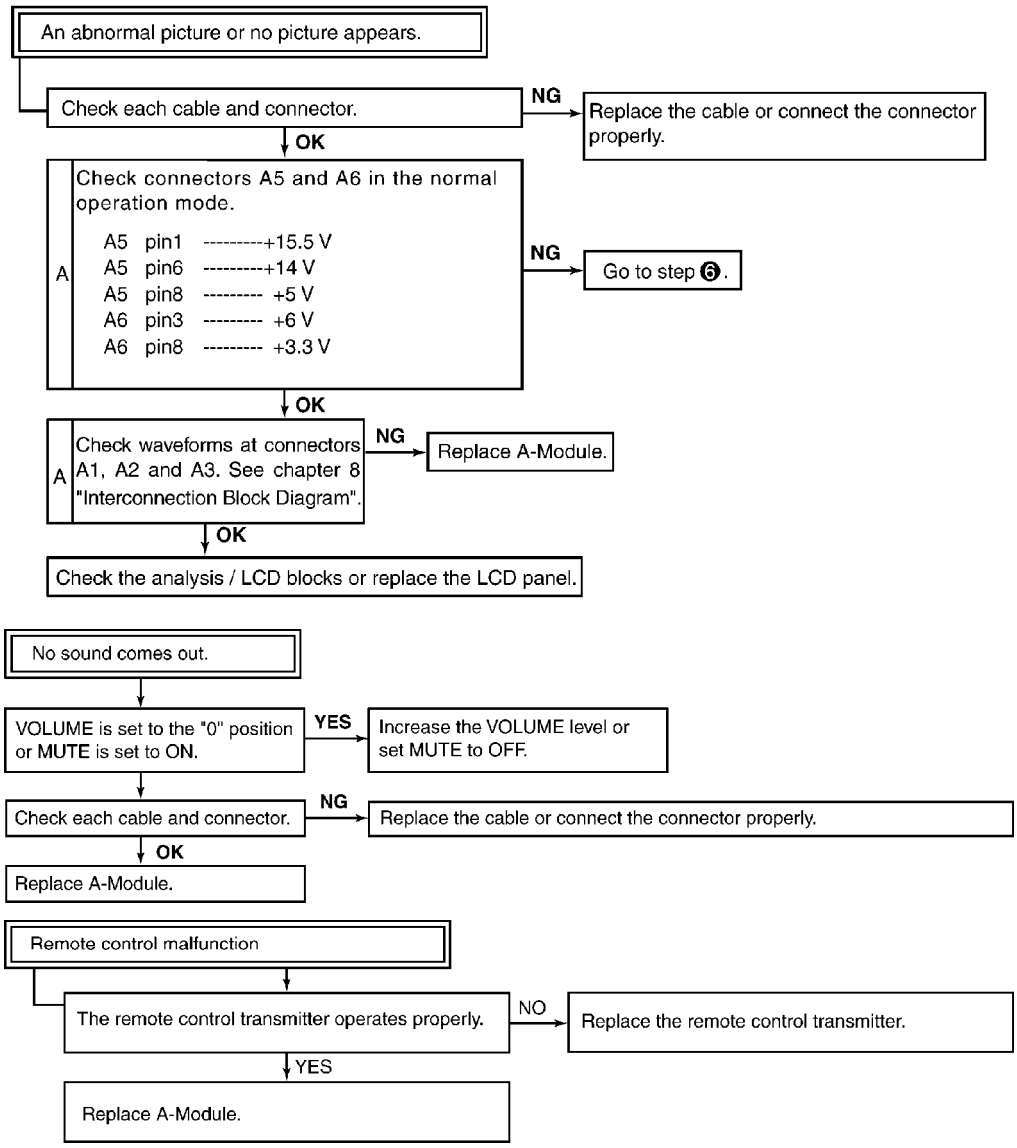
• If replacing A-Module, read the microcomputer and gamma data from the old module and write it in the new one according to the section 6.5. "Software for Adjustment" (if not, remove IC1041 and IC1036 from the old module and replace them on the new module).
• If replacing A-Module, adjust the Input Level according to the chapter 6 "Measurement and Adjustments".




❸
The fuse(6.3 A/250 V) has blown again or the power is not turned on.
A
Disconnect connectors A5 and A6.
A
Short circuit has occured in the points below.
• Connector A5 (pin 1 - pin 2, pin 6 - pin 7, pin 7 - pin 8)
• Connector A6 (pin 2 - pin 3, pin 7 - pin 8)
YES
Replace A-Module.
After replacing A-Module, the main power is turned on.
NO
YES
NO
Replace the power unit.
END
❹
The projector does not change from the standby mode to an operating mode. (The POWER indicator does not change from red to green.)
The LAMP indicator or the TEMP indicator lights up or flashes.
YES
After keeping the main power in the off condition for 3 minutes or more, turn on the power again.
NO
Every connector is connected properly. (Especially check the connectors on the power voltage lines and connectors A4, A8, and A14 - A17.)
NO
The projector becomes an operating mode.
NO
Connect every connector properly.
YES
A
When pressing the POWER button (standby→operation), connector A5 pin 4 changes from LOW to HIGH.
NO
Replace A-Module.
YES
Go to step ❸.
❺
No lamp lights up. (LAMP indicator flashes.)
After keeping the main power in the off condition for 3 minutes or more, turning on the power again allows the lamp to light up.
NO
Replace the lamp.
YES
The lamp goes out approximately 10 minutes after it lights up.
Becuse the cumulative usage time of the lamp exceed 2000 hours, replace it.


❻
The lamp lights up abnormally. (LAMP indicator illuminates.)
Every connector and the lamp are connected properly. (Especially check the connectors on the power voltage lines and connectors A4, A8, and A14 - A17.)
NO
Connect every connector properly.
YES
P
After keeping the main power in the off condition for 3 minutes or more, pressing the POWER button (standby → operation) allows the ballast module in the power unit to generate a high-voltage pulse train and emits a sparking sound.
NO
A
After disconnecting connector A4, pressing the POWER button (standby → operation) changes A4 pin 2 from LOW to HIGH.
YES
NO
Replace A-Module.
YES
A
After connecting every connector, pressing the POWER button (standby → operation) changes connectors A4 pin1 from LOW to HIGH and then from HIGH to LOW.
YES
Replace the power unit.
NO
Replace A-Module.


❼
A shutdown occurs.
The microcomputer or other IC becomes failure and the thermofuse has blown.
Replace A-Module.
The TEMP indicator illuminates or flashes.
A
Connector A8 is connected properly.
NO
Connect the connecter properly.
YES
The ambient temperature is 40° C or lower.
NO
Move the set to a place at a temperature of 40° C or lower.
YES
The internal temperature of the set is too high.
Wait until the set cools enough and then turn on the power again.
The fan is stopped.
The fan connector is connected properly.
NO
Connect the connecter properly.
YES
The proper voltage is provided to the fan.
NO
Go to step ❸.
YES
Replace the fan.



8. Interconnection Block Diagram

8.1. Interconnection Block Diagram (1/2)

8.2. Interconnection Block Diagram (2/2)

9. Block Diagram

9.1. Signal Processing (1/2)

9.2. Signal Processing (2/2)

9.3. Power Supply

10. Schematic Diagram

Schematic Diagram for PT-L711E / L701E / L501E / L1711 / L1701 / L1501

Important Safety Notice

Components identified by the international symbol ⚠ have special characteristics important for safety.When replacing any of these components, use only the manufacturer's specified ones.

Schematic Diagram for Models PT-L711U / L701U / L501U

IMPORTANT SAFETY NOTICE

THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM FIRE AND ELECTRICAL SHOCK HAZARDS.
WHEN SERVICING, IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

Notes:

1. **Resistor**
   All the resistors are carbon 1/4W resistors, unless marked as follows:The unit of resistance is an OHM [Ω] (K=1 000 M=1 000 000).
   - ○ : Nonflammable
   - △ : Solid
   - ⊠ : Wire Wound
   - ⊠ : Metal Oxide
   - ◎ : Metal Film
   - ⊗ : Fuse
2. **Capacitor**
   - ⊗ : Temperature Compensation
   - Ⓜ : Polyester
   - ⓜ : Metalized Polyester
   - ⊠ : Polypropylene
   - : Electrolytic
   - NP : Bipolar
   - Ⓣ : Dipped Tantalum
   - Ⓩ : Z-Type
3. **Coil**
   The unit of inductance is a μH, unless otherwise noted.
4. **Test Point**
   : Test Point
5. **Voltage Measurement**
   The voltage is measured by an electronic voltmeter receiving the colorbar signal when all the customer's controls are set to the standard condition.
6. **Color code for the links between diagrams and circuit boards**

From/To		To/From	Color code
Block diagram	⟷	Schematic diagram	Magenta
Schematic diagram	⟷	Schematic diagram	Green
Schematic diagram	⟷	Circuit boards	Yellow
Schematic diagram	⟷	Waveforms	Cyan (Light blue)

7. **HOT and COLD indications**
   The power circuit board contains a circuit area using a separate power supply to isolate the ground connection. The circuit is defined by HOT and COLD indications in the schematic diagram. Take the precautions below:
8. **This schematic diagram is the latest at the time of printing and the subject to change without notice.**

Precautions:

1. NEVER touch the HOT part or the HOT and COLD parts at the same time, or you may get an electric shock.
2. NEVER short-circuit the HOT and COLD circuits, or the fuse may blow and the parts may break.
3. NEVER connect an instrument such oscilloscope to the HOT and COLD circuit simultaneously, or the fuse may blow.Connect the ground of instruments to the ground of the circuit being measured.
4. MAKE SURE to unplug the power cord from the power outlet before removing the chassis.

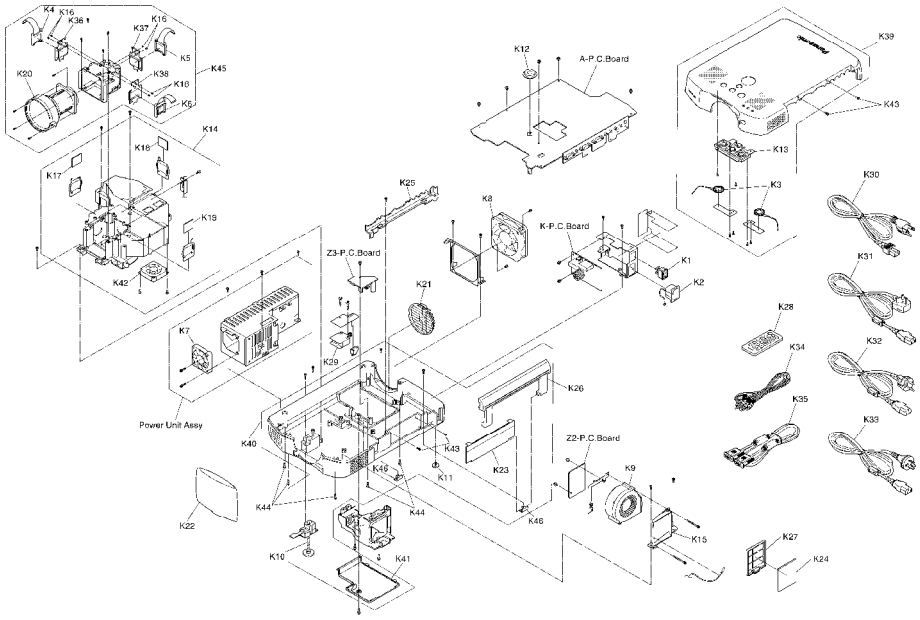
10.1. K-P.C.Board

10.2. Z2-P.C.Board

10.3. Z3-P.C.Board

11. Circuit Boards

12. Exploded Views



13. Replacement Parts List

Important Safety Notice

Components identified by the International symbol ⚠ have special characteristics important for safety.
When replacing any of these components, use only the manufacturer's specified parts.

Abbreviation of part name and description

1. Resistor

Example:

ERD25TJ104 C 100KOHM, J, 1/4W

TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Carbon	F : ± 1 %
F : Fuse	G : ± 2 %
M : Metal Oxide	J : ± 5 %
Metal Film	K : ±10%
S : Solid	M : ±20%
W : Wire Wound	

2. Capacitor

Example:

ECKF1H103ZF C 0.01PF, Z, 50V

TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Ceramic	C : ±0.25 pF
E : Electrolytic	D : ±0.5 pF
P : Polyester	F : ± 1 pF
PP : Polypropylene	J : ± 5 %
S : Polystyrol	K : ±10 %
T : Tantalum	L : ±15 %
	M : ±20 %
	P : +100 %, -0 %
	Z : +80 %, -20 %

Note: For G ＊＊ of Ref. No., not indicate illustration of it part on "Exploded Views".
Printed circuit board assembly with mark (RTL) is no longer available after production discontinuation of the complete set.

Ref. No.	Part No.	Part Name & Description	Remarks
[MECHANICAL PARTS]			
G1	D4CDH5030001	THERMISTOR	
K1	K0AACE000012	AC SWITCH	⚠
K2	K2AH3G000009	AC INLET	⚠
G2	K5Y632B00001	FUSE	⚠
K3	L0AA02A00016	SPEAKER	
K4	L5BDAXQ00023	LIQUID CRYSTAL DISPLAY(R)	L701U,L701U-G
		[P09XG210(RED MARK)]	L701U-P,L701E
			L701E-G,L701E-P
			L1701
	L5BDAXQ00029	LIQUID CRYSTALDISPLAY(R)	L711U,L711E
		[P09XG250(RED MARK)]	L1711
	L5BDAXN00004	LIQUID CRYSTAL DISPLAY(R)	L501U,L501U-P,
		[P09SG110(RED MARK)]	L501U-G,L501E,
			L501E-G,L501E-P
			L1501
K5	L5BDAXQ00024	LIQUID CRYSTAL DISPLAY(G)	L701U,L701U-G
		[P09XG210(NO MARK)]	L701U-P,L701E
			L701E-G,L701E-P
			L1701
	L5BDAXQ00030	LIQUID CRYSTAL DISPLAY(G)	L711U,L711E,
		[P09XG250(NO MARK)]	L1711
	L5BDAXN00005	LIQUID CRYSTAL DISPLAY(G)	L501U,L501U-P,
		[P09SG110(NO MARK)]	L501U-G,L501E,
			L501E-G,L501E-P
			L1501
K6	L5BDAXQ00025	LIQUID CRYSTAL DISPLAY(B)	L701U,L701U-G
		[P09XG210 (BLUE MARK)]	L701U-P,L701E
			L701E-G,L701E-P
			L1701
	L5BDAXQ00031	LIQUID CRYSTAL DISPLAY(B)	L711U,L711E,
		[P09XG250 (BLUE MARK)]	L1711
	L5BDAXN00006	LIQUID CRYSTALDISPLAY(B)	L501U,L501U-P,
		[P09SG110(BLUE MARK)]	L501U-G,L501E,
			L501E-G,L501E-P
			L1501
K4	L5BDAXQ00026	LIQUID CRYSTAL DISPLAY(R)	L701U,L701U-G
		[P09XG220 (RED MARK)]	L701U-P,L701E
			L701E-G,L701E-P
			L1701
	L5BDAXQ00032	LIQUID CRYSTAL DISPLAY(R)	L711U,L711E,
		[P09XG260 (RED MARK)]	L1711
	L5BDAXN00007	LIQUID CRYSTAL DISPLAY(R)	L501U,L501U-P,
		[P09SG120 (RED MARK)]	L501U-G,L501E,
			L501E-G,L501E-P
			L1501

Ref. No.	Part No.	Part Name & Description	Remarks
K5	L5BDAXQ00027	LIQUID CRYSTAL DISPLAY(G)	L701U,L701U-G
		[P09XG220 (NO MARK)]	L701U--P,L701E
			L701E-G,L701E-P
			L1701
	L5BDAXQ00033	LIQUID CRYSTALDISPLAY(G)	L711U,L711E,
		[P09XG260 (NO MARK)]	L1711
	L5BDAXN00008	LIQUID CRYSTALDISPLAY(G)	L501U,L501U-P,
		[P09SG120 (NO MARK)]	L501U-G,L501E,
			L501E-G,L501E-P
			L1501
K6	L5BDAXQ00028	LIQUID CRYSTAL DISPLAY(B)	L701U,L701U-G
		[P09XG220 (BLUE MARK)]	L701U-P,L701E
			L701E-G,L701E-P
			L1701
	L5BDAXQ00034	LIQUID CRYSTAL DISPLAY(B)	L711U,L711E,
		[P09XG260 (BLUE MARK)]	L1711
	L5BDAXN00009	LIQUID CRYSTAL DISPLAY(B)	L501U,L501U-P,
		[P09SG120 (BLUE MARK)]	L501U-G,L501E,
			L501E-G,L501E-P
			L1501
K7	L6FAJACH0003	FAN	⚠
K8	L6FALDFH0002	FAN	⚠
K9	L6FCLFCH0001	FAN	⚠
K10	TBLB0035	ADJUST LEG(FRONT)	
K11	TBLB3058	ADJUST LEG (REAR)	
G3	TBMD995-1	MODEL NAME PLATE	
	TBME067	MODEL NAME PLATE	L701U-G
	TBME066	MODEL NAME PLATE	L701U-P
	TBMD996-1	MODEL NAME PLATE	L701E
	TBME068	MODEL NAME PLATE	L701E-P
	TBME069	MODEL NAME PLATE	L701E-G
	TBMD999-1	MODEL NAME PLATE	L711U
	TBME001-1	MODEL NAME PLATE	L711E
	TBME004-1	MODEL NAME PLATE	L501U
	TBME074	MODEL NAME PLATE	L501U-P
	TBME075	MODEL NAME PLATE	L501U-G
	TBME005-1	MODEL NAME PLATE	L501E
	TBME077	MODEL NAME PLATE	L501E-G
	TBME076	MODEL NAME PLATE	L501E-P
	TBMD997-1	MODEL NAME PLATE	L1701
	TBME006-1	MODEL NAME PLATE	L1501
	TBME002-1	MODEL NAME PLATE	L1711
K12	TBXA28601	CONTROL BUTTON 1	
K13	TBXA28701	CONTROL BUTTON 2	
K14	TEEC0027	ANALYSIS BLOCK	
K15	TEEC5037	DUCT	
K16	THEC053U	SCREW (LCD PANEL ADJ)	
K17	TKGP5042	POLARIZING PLATE/IN(R)	
K18	TKGP5043	POLARIZING PLATE/IN(G)	
K19	TKGP5044	POLARIZING PLATE/IN(B)	
K20	TKGF0037	LENS	

Ref. No.	Part No.	Part Name & Description	Remarks
K46	TKKF5069	HANDLE GUIDE	L701U,L701E,
			L501U,L501E
			L1701,L1501,
	TKKF5071	HANDLE GUIDE	L701U-G,L701E-G,
			L501U-G,L501E-G
	TKKF5070	HANDLE GUIDE	L701U-P,L701E-P,
			L501U-P,L501E-P
	TKKF5072	HANDLE GUIDE	L711U,L711E,
			L1711
K21	TKKH5064	VENTILATION COVER	L701U,L701E,
			L501U,L501E
			L1701,L1501,
	TKKH5067	VENTILATION COVER	L701U-G,L701E-G,
			L501U-G,L501E-G
	TKKH5066	VENTILATION COVER	L701U-P,L701E-P,
			L501U-P,L501E-P
	TKKH5068	VENTILATION COVER	L711U,L711E,
			L1711
K22	TKKL5139	LENS COVER	
K23	TKKL5143	RECEIPT COVER	L701U,L701E,
			L501U,L501E
			L1701,L1501,
	TKKL5153	RECEIPT COVER	L701U-G,L701E-G,
			L501U-G,L501E-G
	TKKL5152	RECEIPT COVER	L701U-P,L701E-P,
			L501U-P,L501E-P
	TKKL5154	RECEIPT COVER	L711U,L711E,
			L1711
K24	TKNE035	FILTER	
K25	TKPA44201	TERMINAL PANEL	L701U,L701E,
			L501U,L501E
			L1701,L1501,
	TKPA44203	TERMINAL PANEL	L701U-G,L701E-G,
			L501U-G,L501E-G
	TKPA44202	TERMINAL PANEL	L701U-P,L701E-P,
			L501U-P,L501E-P
	TKPA44204	TERMINAL PANEL	L711U,L711E,
			L1711
K26	TKRA20701	HANDLE	L701U,L701E,
			L501U,L501E
			L1701,L1501,
	TKRA20703	HANDLE	L701U-G,L701E-G,
			L501U-G ,L501E-G
	TKRA20702	HANDLE	L701U-P,L701E-P,
			L501U-P,L501E-P
	TKRA20704	HANDLE	L711U,L711E,
			L1711
K27	TMZX5014	FILTER COVER	
K28	TNQE239	REMOTE CONTROLLER	

Ref. No.	Part No.	Part Name & Description	Remarks
G5	TPCA96502A	CARTON	L701U
	TPCA96516A	CARTON	L701U-G
	TPCA96515A	CARTON	L701U-P
	TPCA96503A	CARTON	L701E
	TPCA96517A	CARTON	L701E-P
	TPCA96518A	CARTON	L701E-G
	TPCA96506A	CARTON	L711U
	TPCA96507A	CARTON	L711E
	TPCA96510A	CARTON	L501U
	TPCA96523A	CARTON	L501U-P
	TPCA96524A	CARTON	L501U-G
	TPCA96511A	CARTON	L501E
	TPCA96526A	CARTON	L501E-G
	TPCA96525A	CARTON	L501E-P
	TPCA96504A	CARTON	L1701
	TPCA96512A	CARTON	L1501
	TPCA96508A	CARTON	L1711
G6	TPDF0529	ACCESSARY PACKING CASE	
G7	TPDF0567-1	CUSHION	
G8	TPDF0584	CARRYING PACKING CASE	
G9	TPDF0591	CUSHION	
G10	TPEH124	SET COVER	
G11	TPEP001	CARRYING CASE	
G12	TQF86202	LABEL	
G13	TQZC010	FAN BAG	L701U,L701U-G,
			L701U-P,L711U,
			L501U,L501U-P,
			L501U-G
G14	TQBJ0070	INSTRUCTION BOOK	L701E,L701E-P,
			L701E-G,L711E,
			L501E,L501E-G,
			L501E-P
	TQBJ0071	INSTRUCTION BOOK	L1701,L1501,
			L1711
G15	XZBT6532	BAG (Instruction Book)	L701E,L701E-P,
			L701E-G,L711E,
			L501E,L501E-G,
			L501E-P,L1701,
			L1501,L1711
K29	TSEX8005	SWITCH	⚠
K30	TSXA144	POWER CORD	⚠L701U,L701U-G,
			L701U-P,L711U,
			L501U,L501U-P,
			L501U-G
K31	TXFSX02VTFZ	POWER CORD	⚠L701E,L701E-P,
			L701E-G,L711E,
			L501E,L501E-G,
			L501E-P
K32	TXFSX02VTHZ	POWER CORD	⚠L701E,L701E-P,
			L701E-G,L711E,
			L501E,L501E-G,
			L501E-P

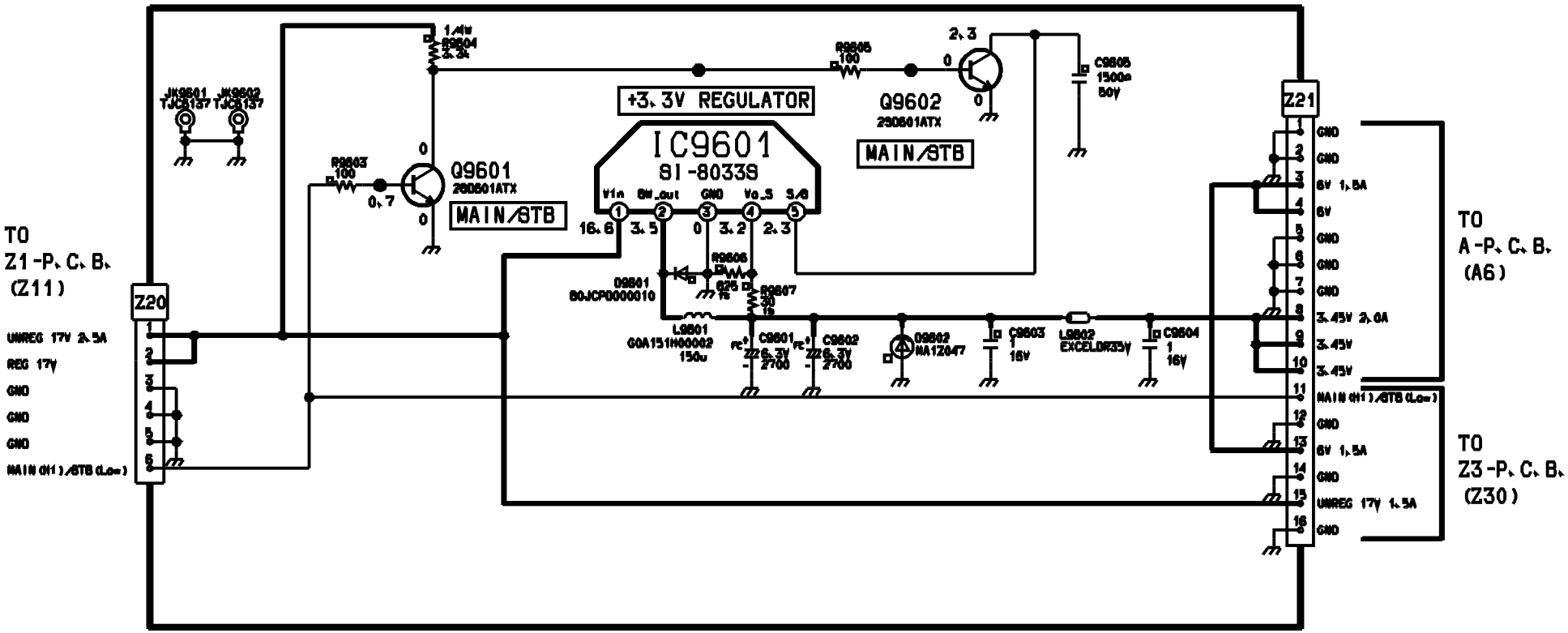
Ref. No.	Part No.	Part Name & Description	Remarks
K33	TXFSX02PAEZ	POWER CORD	⚠L1701,L1501,
			L1711
K34	TSXF015	AV CABLE	
K35	TSXF163	VGA CABLE	
K36	TXFGP99VJD2R	POLARIZING PLATE/OUT(R)	L701U,L701U-G,
			L701U-P,L701E,
			L701E-P,L701E-G,
			L711U,L711E
			L1701,L1711
	TXFGP99VJD3R	POLARIZINGPLATE/OUT(R)	L501U,L501U-P,
			L501U-G,L501E,
			L501E-G,L501E-P,
			L1501
K37	TXFGP99VJD2G	POLARIZINGPLATE/OUT(G)	L701U,L701U-G,
			L701U-P,L701E,
			L701E-P,L701E-G,
			L711U,L711E
			L1701,L1711
	TXFGP99VJD3G	POLARIZING PLATE/OUT(G)	L501U,L501U-P,
			L501U-G,L501E,
			L501E-G,L501E-P,
			L1501
K38	TXFGP99VJD2B	POLARIZING PLATE/OUT(B)	L701U,L701U-G,
			L701U-P,L701E,
			L701E-P,L701E-G,
			L711U,L711E
			L1701,L1711
	TXFGP99VJD3B	POLARIZINGPLATE/OUT(B)	L501U,,L501U-P,
			L501U-G,L501E,
			L501E-G,L501E-P,
			L1501
K39	TXFKF98VJD2	UPPER COVER ASSY	L701U,L701E,
			L501U,L501E,
			L1701,L1501
	TXFKF98VJF3	UPPER COVER ASSY	L701U-G,L701E-G,
			L501U-G ,L501E-G
	TXFKF98VJE9	UPPER COVER ASSY	L701U-P,L701E-P,
			L501U-P,L501E-P
	TXFKF99PHNZ	UPPER COVER ASSY	L711U,L711E,
			L1711

Ref. No.	Part No.	Part Name & Description	Remarks
K40	TXFKF98VJD2A	BOTTOM COVER ASSY	L701U
	TXFKF98VJF3A	BOTTOM COVER ASSY	L701U-G
	TXFKF98VJE9A	BOTTOM COVER ASSY	L701U-P,L701E-P
	TXFKF97VJD2A	BOTTOM COVER ASSY	L701E
	TXFKF97VJF3A	BOTTOM COVER ASSY	L701E-G
	TXFKF99PHNZA	BOTTOM COVER ASSY	L711U
	TXFKF98PHNZA	BOTTOM COVER ASSY	L711E
	TXFKF93VJD2A	BOTTOM COVER ASSY	L501U
	TXFKF94VJE9A	BOTTOM COVER ASSY	L501U-P
	TXFKF94VJF3A	BOTTOM COVER ASSY	L501U-G
	TXFKF92VJD2A	BOTTOM COVER ASSY	L501E
	TXFKF93VJF3A	BOTTOM COVER ASSY	L501E-G
	TXFKF93VJE9A	BOTTOM COVER ASSY	L501E-P
	TXFKF96VJD2A	BOTTOM COVER ASSY	L1701
	TXFKF91VJD2A	BOTTOM COVER ASSY	L1501
	TXFKF97PHNZA	BOTTOM COVER ASSY	L1711
K41	TXFKK02VJD2A	LAMP COVER ASSY	L701U,L701E,
			L501U,L501E,
			L1701,L1501
	TXFKK02VJF3A	LAMP COVER ASSY	L701U-G,L701E-G,
			L501U-G,L501E-G
	TXFKK02VJE9A	LAMP COVER ASSY	L701U-P,L701E-P,
			L501U-P,L501E-P
	TXFKK02PHNZA	LAMP COVER ASSY	L711U,L711E,
			L1711
K42	UDQFSDH05F	PBS FAN	⚠
K43	XSN3+6FZ	SCREW	
K44	XSN4+10	SCREW	
G16	XSS2+6FZ	SCREW(LCD PANEL)	
G17	XTBT969Z	SCREW	
G18	XYN3+F6	SCREW	
G19	XYN3+F8	SCREW	
G20	XYN3+F8FZ	SCREW	
G21	XYN3+J10	SCREW	
G22	XYN3+J8	SCREW(LENS)	
G23	XYN4+E8	SCREW	
K45	TXFKG99VJD2	OPTICAL BASE UNIT	L701U,L701U-G
			L701U-P,L701E
			L701E-G,L701E-P
			L1701
	TXFKG99VJE3	OPTICAL BASE UNIT	L711U,L711E
			L1711
	TXFKG99VJD3	OPTICAL BASE UNIT	L501U,L501U-P,
			L501U-G,L501E,
			L501E-G,L501E-P
			L1501
[INTEGRATED CIRCUITS]			
IC9601,02	C0DAAGH00003	I.C	
[TRANSISTORS]			
Q9601-04	2SD601AR	TRANSISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
		[DIODES]	
D9101	ERZV14D471	VARISTOR	⚠
D9601	B0JCPD000010	DIODE	
D9602	MA1Z047	DIODE	
D9603	B0JCPD000010	DIODE	
D9604	MA1Z068	DIODE	
		[COILS]	
L9101	G0BYYYH00002	CHOKE COIL	⚠
L9601	G0A151H00002	CHOKE COIL	
L9602	EXCELDR35C	CORE	
L9603	G0A221H00002	CHOKE COIL	
L9604	EXCELDR35C	CORE	
		[RESISTORS]	
R9101	ERC12GK474	S 470KOHM, K,1/2W	⚠
R9603	ERJ6GEYJ101	M 100 OHM,J,1/10W	
R9604	ERJ14YJ332U	M 3.2KOHM,J, 1/4W	
R9605	ERJ6GEYJ101	M 100 OHM,J,1/10W	
R9606	ERJ6ENF8250	M 825 OHM, 1/10W	
R9607	ERJ6ENF30R0	M 30 OHM, 1/10W	
R9608	ERJ6GEYJ101	M 100 OHM,J,1/10W	
R9609	ERJ6ENF8250	M 825 OHM, 1/10W	
R9610	ERJ6ENF5490	M 549 OHM, 1/10W	
R9611	ERJ6GEYJ101	M 100 OHM,J,1/10W	
R9612	ERJ14YJ332U	M 3.2KOHM,J, 1/4W	
		[CAPACITORS]	
C9101,02	ECQU2A684MLA	P 0.68UF, 250V	⚠
C9103,04	ECKCNA102MBB	C 1000PF, M,	⚠
C9601,02	EEUFC0J272S	E 2700UF, 6.3V	
C9603,04	ECJ2XF1C105Z	C 1UF, Z, 16V	
C9605	EEUFC1A332	E 3300UF, 10V	
C9606,07	ECJ2XF1C105Z	C 1UF, Z, 16V	
C9608	ECJ2XC1H152J	C 1500PF, J, 50V	
		[OTHERS]	
A1-A3	K1MN30B00033	CONNECTOR	
F9101-1,-2	TJC6320	FUSE HOLDER,SMALL	
F9102-1,-2	TJC6320	FUSE HOLDER,SMALL	
JK1001	TJSF42904	CONNECTOR	
JK1003	TJS1A7250	HEADHONE JACK	
JK1004	TJS4A8390	CONNECTOR	

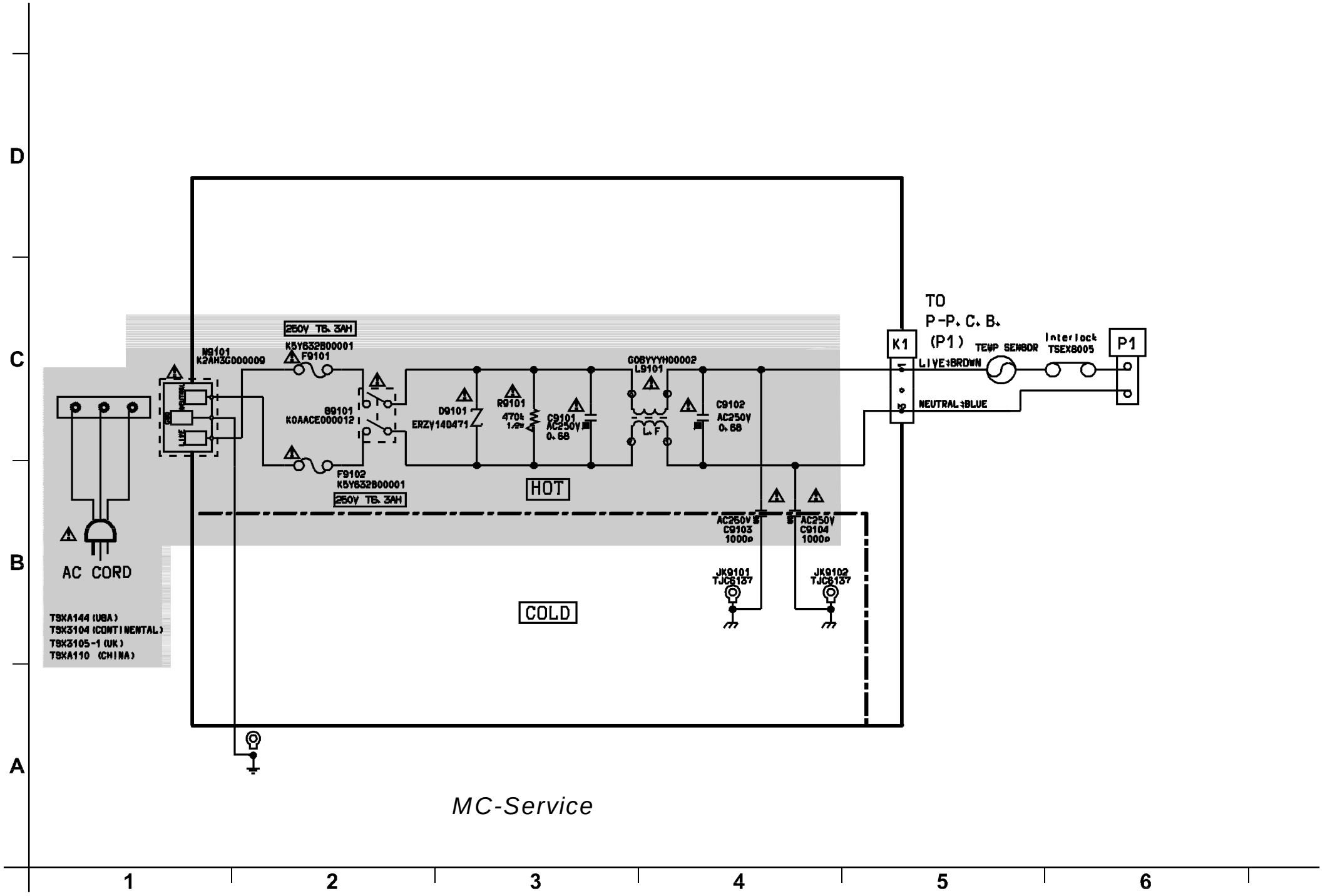
Ref. No.	Part No.	Part Name & Description	Remarks
JK1005,06	K1FB115B0066	D-SUB 15P	
JK1007	TJS1A7250	HEADHONE JACK	
JK1008	K2HA101B0022	VIDEO INPUT TERMINAL	
JK1009	K2HA101B0021	AUDIO INPUT TERMINAL	
JK1010	K2HA101B0020	AUDIO INPUT TERMINAL	
JK9101,02	TJC6137	EARTH LUG	
JK9601-03	TJC6137	EARTH LUG	
K1	TJS8A8570	2P CONNECTOR	
RM1001,02	TNQ10483	REMOCON RECEIVER	
RTL	TNPA1879	CIRCUIT BOARD K	
RTL	TNPA1881	CIRCUIT BOARD Z2	
RTL	TNPA1932	CIRCUIT BOARD Z3	
	TXANP01VJD2	CIRCUIT BOARD A	L701U,L701U-G,
			L701U-P,L701E
			L701E-P,L701E-G
			L711U,L711E
			L1701,L1711
	TXANP01VJD3	CIRCUIT BOARD A	L501U,L501U-P,
			L501U-G,L501E,
			L501E-G,L501E-P,
			L1501
	TXANP02VJD2	POWER UNIT ASSY	
S1001,02	EVQPLHA15	SWITCH	
S1003	K0F115A00001	SWITCH	
S1004,05	EVQPLHA15	SWITCH	
Z20	TJS1A9490	6P CONNECTOR	
Z21	TJS6A9350	CONNECTOR	
Z30	TJS1A9490	6P CONNECTOR	
[OPTION REMOTE CONTROLLER]			
	N2QAEA000001	REMOTE CONTROLLER	
	N2FZ00000001	REMOTE RECEIVER	
	K1EA08CD0002	REMOTE CONTROLLER CABLE	PS/2
	K1EA08CD0003	MOUSE CABLE	MAC
	K1HB04CD0001	MOUSE CABLE	USB
	TQFB242	LABEL	

Z2-P.C.Board TNPA1881



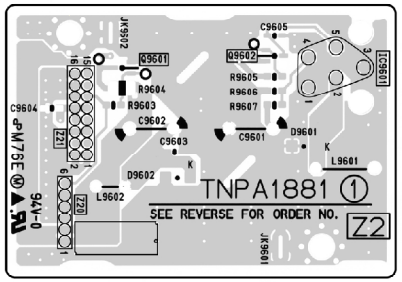
MC-Service

K-P.C.Board TNPA1879



MC-Service

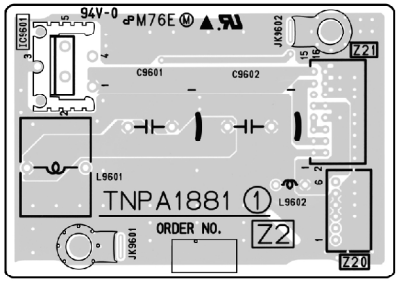
Z2-P.C.Board TNPA1881 (Foil Side)



Z2-P.C.Board (Foil Side)	
IC	
IC9601	F-3
TRANSISTOR	
Q9601	F-2
Q9602	F-3

ADDRESS INFORMATION

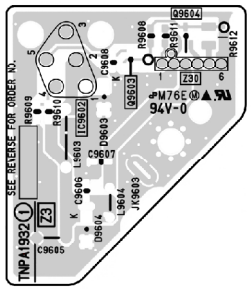
Z2-P.C.Board TNPA1881 (Component Side)



Z2-P.C.Board (Component Side)	
IC	
IC9601	F-5

ADDRESS INFORMATION

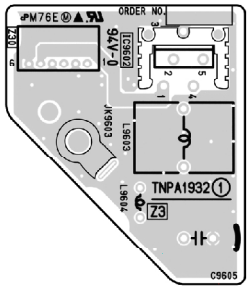
Z3-P.C.Board TNPA1932 (Foil Side)



Z3-P.C.Board (Foil Side)	
IC	
IC9602	D-2
TRANSISTOR	
Q9603	D-2
Q9604	D-2

ADDRESS INFORMATION

Z3-P.C.Board TNPA1932 (Component Side)

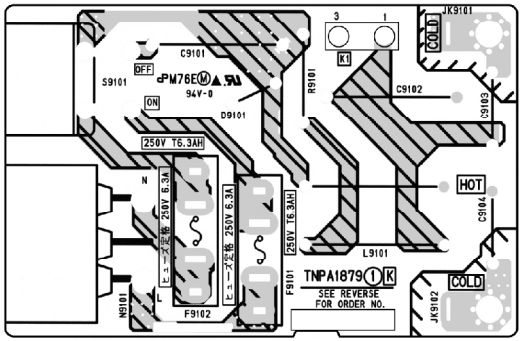


Z3-P.C.Board (Component Side)	
IC	
IC9602	D-5

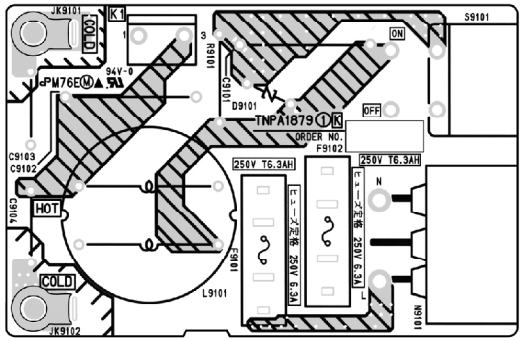
ADDRESS INFORMATION

MC-Service

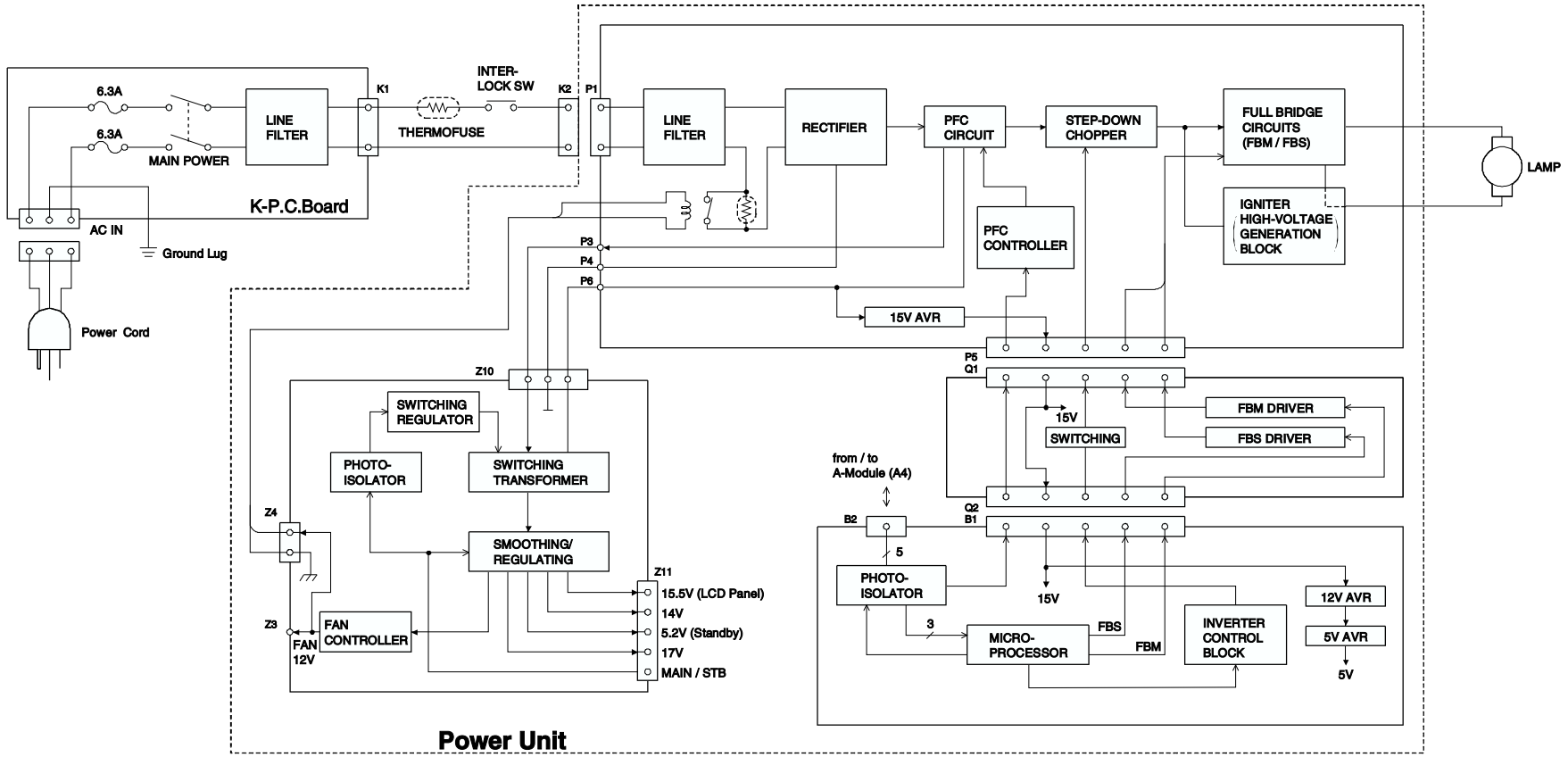
K-P.C.Board TNPA1879 (Foil Side)



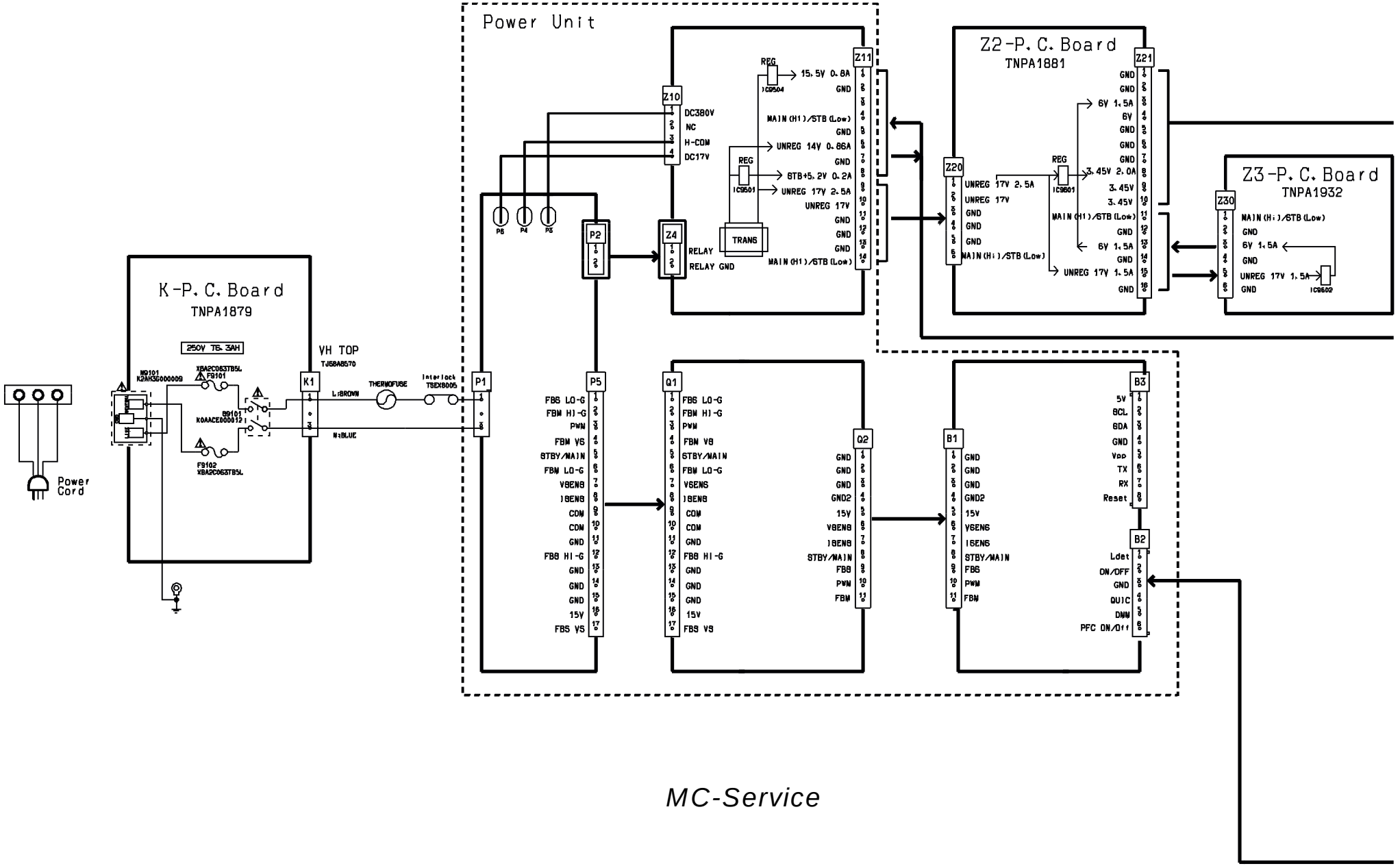
K-P.C.Board TNPA1879 (Component Side)



Power Supply

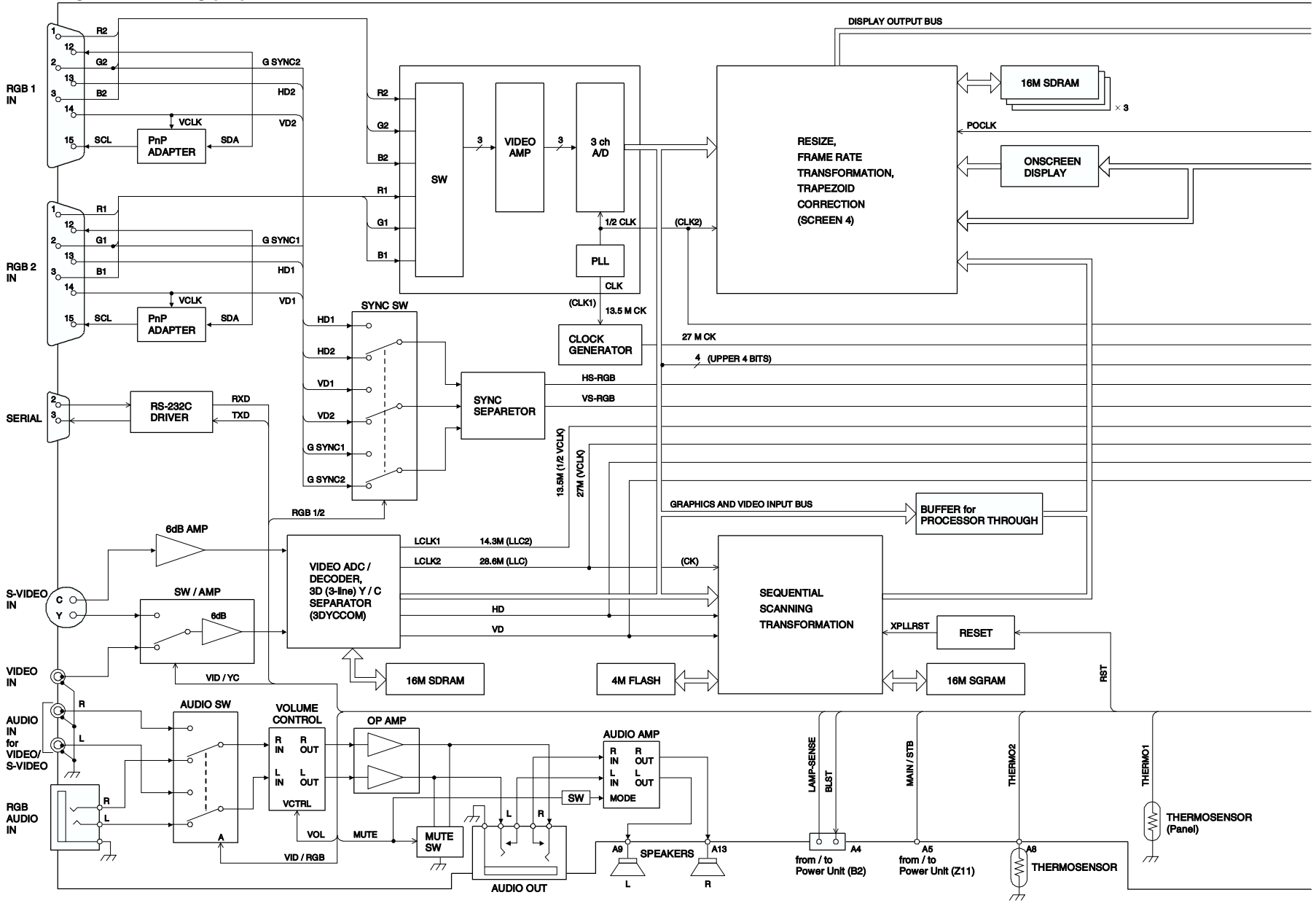


Interconnection Block Diagram (1/2)

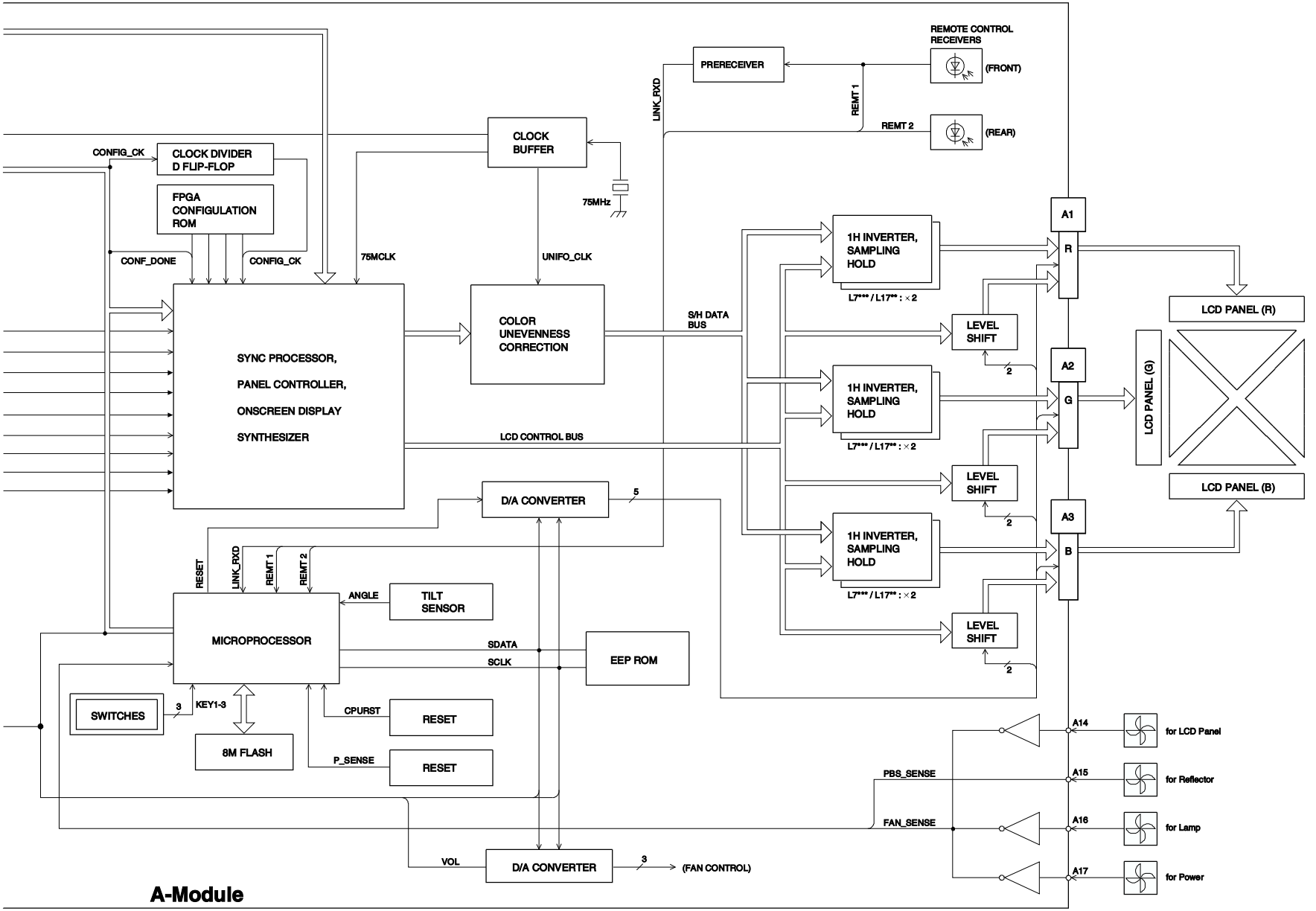


MC-Service

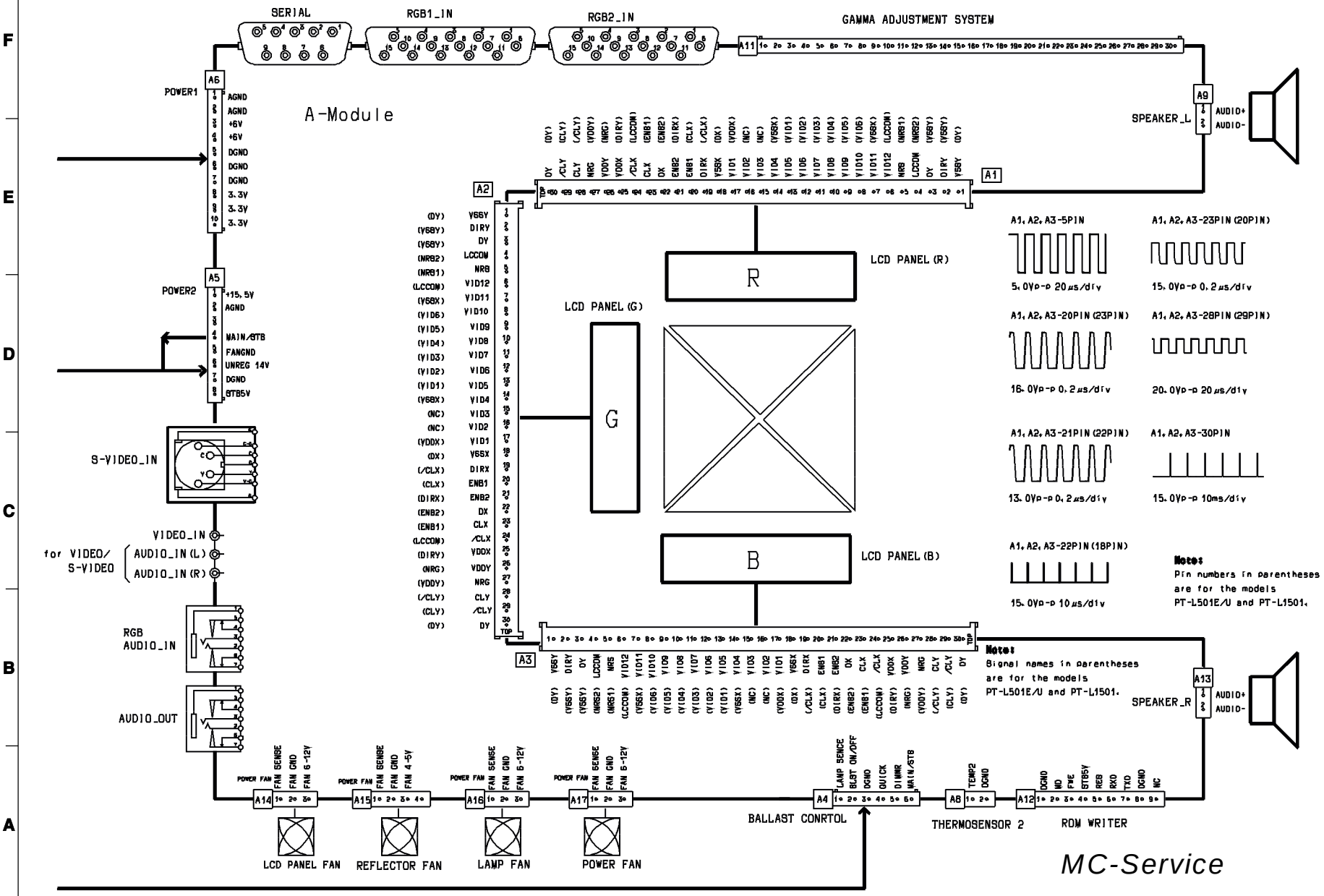
Signal Processing (1/2)

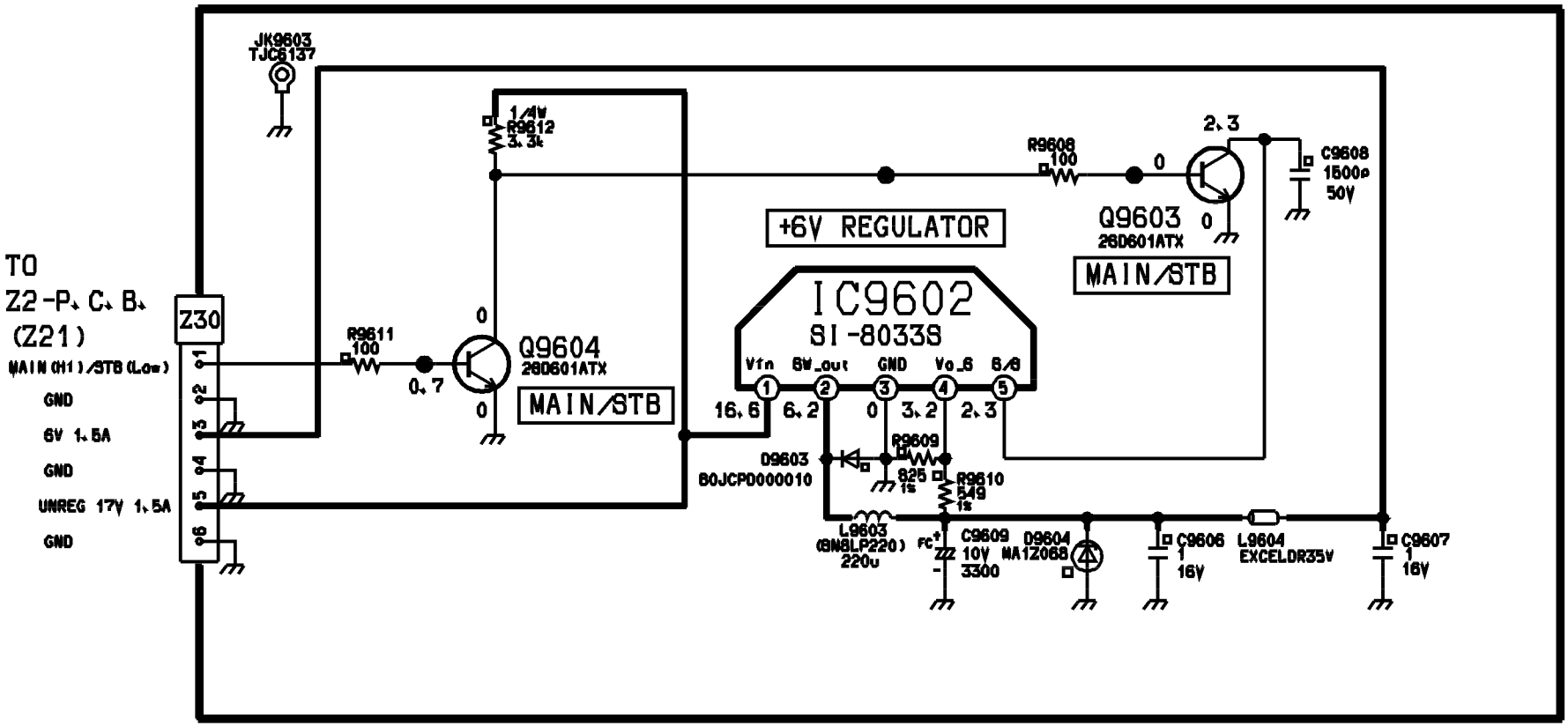


Signal Processing (2/2)



Interconnection Block Diagram (2/2)




JK9603
TJC6137
1/4W
R9612
3.3k
R9608
100
0
2.3
C9608
1500p
50V
Q9603
2SD601ATX
0
+6V REGULATOR
MAIN/STB
TO
Z2-P.C.B.
(Z21)
Z30
MAIN (H1)/STB (Low)
GND
6V 1.5A
GND
UNREG 17V 1.5A
GND
R9611
100
0.7
Q9604
2SD601ATX
MAIN/STB
IC9602
SI-8033S
Vfb
SW_out
GND
Vo_S
6.6
16.6
6.2
0
3.2
2.3
D9603
B0JCPD000010
R9609
825
1%
R9610
549
1%
L9603
(SN6LP220)
220u
C9609
10V
3300
D9604
MA1Z068
C9606
1
16V
L9604
EXCELDR35V
C9607
1
16V

MC-Service